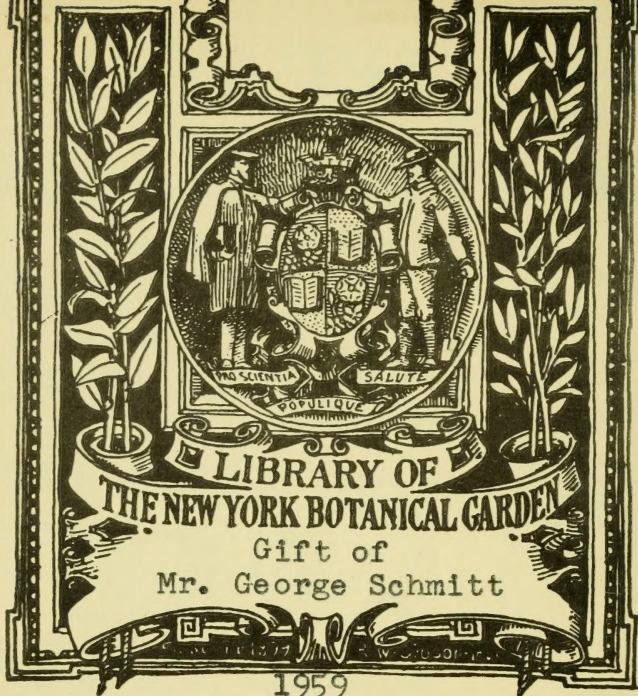


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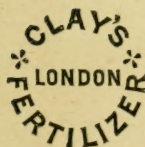
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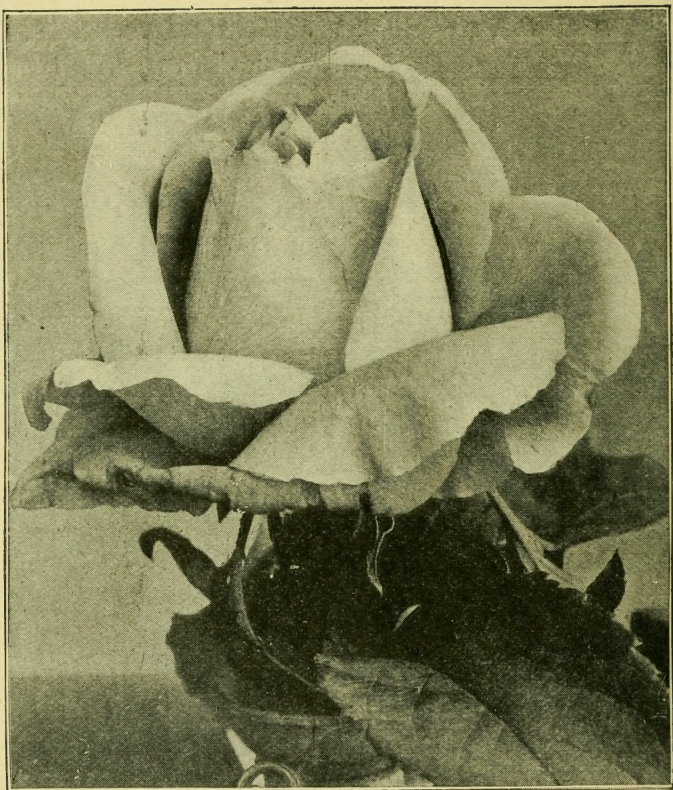
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A CONCISE GUIDE

DESCRIBING THE PROPAGATION, PRUNING, AND GENERAL
CULTURE OF ROSES, BOTH OUT OF DOORS AND
UNDER GLASS

BY

WALTER P. ^{page} WRIGHT, 1864-

Horticultural Superintendent under the Kent County Council

G. Schmitt

WITH NEARLY ONE HUNDRED ILLUSTRATIONS

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PREFACE.

THERE are so many books on Roses in existence that the only excuses for writing another likely to find acceptance with the public are (1) that it is a great deal better than existing ones, or (2) very different in point of style.

To plead No. 1 would be the height of presumption, considering the eminence of the several rosarians whose names are familiar as writers, but with No. 2 I may stand a chance.

This book is one of a series (see opposite page) having as its chief feature practical and pictorial illustration.

There were many books on fruit in existence before "Pictorial Practical Fruit Growing" was written, but it was fortunate enough to find favour, largely, perhaps, on account of its distinct style.

The leading idea of the series was, and is, to put concise illustrated directions in the place of long-winded verbal descriptions, which often convey nothing.

I have ventured to call this horticultural instruction in tabloids.

"Pictorial Practical Rose Growing" simply applies to the most popular flower of the garden a method of cultural elucidation which has won success when brought to bear on the orchard, the greenhouse, and the kitchen garden.

WALTER P. WRIGHT.

September. 1902.

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PICTORIAL PRACTICAL ROSE GROWING.

Chapter 1.—An Impressionism, with a Moral.

DAWN!

Dawn of a June morning!

Dawn with the dew trembling on the shy grass, and the birds crazy with the passion of life.

The Copper Beech at the garden gate has abandoned his illicit alliance with the night shadows, and toys, hotly amorous, with the first rays of the sun.

The Honey Locust tree facing the hall door shivers slightly, and is still.

Tall Irises in the border, low Violas in the beds, a whole gamut of floral voices in the temples of the rockwork, sing a welcome.

It is the garden's hour, for the world is still asleep. It is the garden's moment of womanly triumph, for it has you all its own, with no worldly hardness in your eye—the softness of love alone there.

It is the Rose's hour. The colour in the morning sky is heaven's own imitation of earth's fairest daughter. At the hour of dawn all men start alike. You, I, are level with the greatest exhibitor, for the world is not awake to parcel us out; to say of this one, "He is too fat to know of Roses, we will not listen to him"; of this, "He is too lean."

All who go into the Rose's arbour before the world awakes may woo her as they will. With whispered messages, that none but she may hear? it is well. With uplifted voices, the thrill of which strikes on other ears? it is still their right.

It is the Rose's hour. Our fair lady has caught no tricks of the world, and she bids all lovers enter, even if they have never trimmed her into the showman's shape. "Come," says she, "and sing my praises: all praise is sweet."

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So we, children of the morning like herself, speak to her, and of her, without fear. The world is still unborn. Rival ambitions, conflicting interests, raucous clamour of wrongs done and vengeance unrequited—these foul spectres of the battling day are still.

If a window is thrown up, a night-capped head thrust angrily out, and a fist, armed with an exhibiting tube, is shaken at us, what matter? Tush! Tshoo! Shucks! A fig for the jealous prize-winner who would peg out this fair preserve, and keep it to himself!

We are here by right of love, to talk of the Rose, not as those who have gained money and medals and silver cups by her, but as those who have studied her intimately these many years—who have had Roses in their gardens and in their hearts, not merely in their pockets.

In our own circle we are at peace. Secure from the slings and arrows of malice, with the flame of our affection burning as a fire imperishable, we start our Rose ramble.

In our happy communings we shall see how we may get more Roses in our gardens, how we may make their homes larger and healthier, how we may turn them to fresh and beautiful uses, and how we may protect them from their lurking enemies.

Thus, having made two Roses grow where but one grew before, we shall have humbly imitated Him who doubled the blades of grass, and watered them with the dew of love.

Chapter 2.—A Practical Purview.

ARE we going to have a Rose Garden, or Roses *in* the garden? Here is a far-reaching question. Are we lords of ancestral acres, are we South African magnates, have we a million-tons-a-year trade in tea—then will we have a Rose Garden. Are we confidential clerks, are we poor clergy, are we bank cashiers, are we unbriefed barristers, are we sugar dealers in a small way—then will we have Roses *in* our garden.

And let us straight away recognise that it is in the latter circumstances, and not in the former, that possibilities of Rose distinction lie. Roses of prize-winning potentialities may be grown in our (millionaire's) Rose Garden, but our head gardener will stand sponsor for them at the show, and pocket the prize-money which they win. Roses of prize-winning potentialities may be grown in our (clerical) garden, and we—we ourselves—shall appropriate the glory and the spoil.

In any case, the author's position is plain enough. He is millionaire and clerk by turns. In the former capacity he will plan out a complete Rose Garden; in the latter he will scheme how to work in as many Roses among his other plants as space will allow.

He will include in his purview the following types of Roses:—

1. The Standard Rose.
2. The Dwarf Rose.
3. The Wall or Climbing Rose.
4. The Weeping Rose.
5. The Pegged-down Rose.
6. The Pot Rose.
7. The Arch or Arbour Rose.
8. The Exhibition Rose.

He will prove that each (and all if wished) can be grown in the ordinary garden; and he will show how the various forms may be blended together in one harmonious whole—the Rose Garden proper.

There would be incompleteness in the purview were soils and manures, planting and pruning, propagating and training, potting and showing, varieties and enemies, excluded from it. These also, therefore, must have their share of attention.

In short, the sculpture of our goddess is going to be complete. We are not going to leave her, like the Venus of Milo which we go into ecstasies over in the Louvre, armless. Nor is she going to be, like the Queen of Spain, without legs!

Chapter 3.—About Rose Gardens.

THE Rose Garden of modern days is planned to give harbourage to Roses of varied forms. It is often a roomy place, well protected by belts of shrubs or trees. Its walks are perhaps arched at the entrance, and converge upon a central space, wherein may be a bed, or a capacious water-basin, surrounded by a low wall, which offers an inviting seat in hot weather.

There is, perhaps, a series of short pergolas, clad with Roses, near the centre. In their absence there are arches.

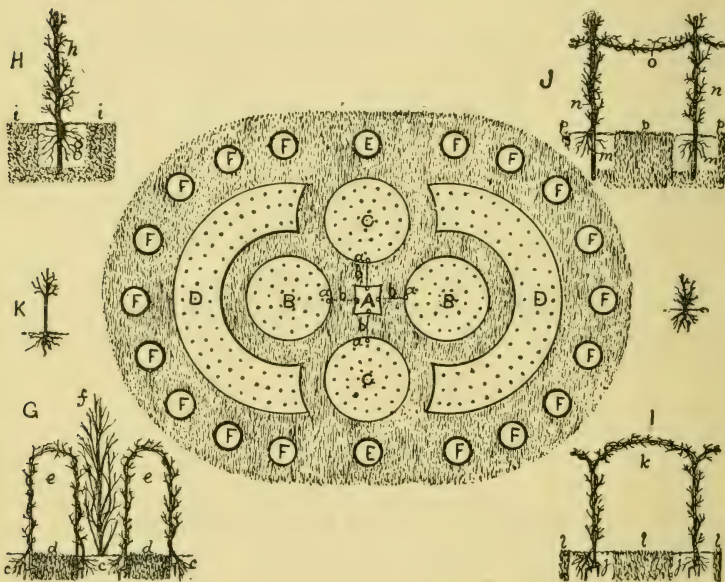
There are pillars, or tree stems, up which Roses clamber.

There are beds, and groups of beds. The leading idea is to give up separate beds to each variety, so arranging them that the beds, as a whole, blend together

FIG. 1.—PLAN OF ROSE GARDEN.—I.

Scales: A—F, 1 inch equals 32 feet; G—L, 1 inch equals 16 feet.

- A, centre, four plants of Crimson Rambler, some growths forming a pillar (see section G at *f*), and others trained to arches. The other side of the arches is formed of Gloire de Dijon: *a*, Roses; *b*, arches.
 B, standard Hybrid Perpetuals. If 2 feet apart, about fifty-four plants will be wanted for both beds. The central plants should have 4 feet, the middle row 3 feet, and the outside row 2 feet high stems. (See K.)
 C, dwarf Teas and Hybrid Teas. If 2 feet apart, about fifty-four plants will be required for both beds. (See L.)
 D, dwarf Hybrid Perpetuals. At 2 feet apart about 145 plants will be needed for both beds. (See L.)



E, pillar, Glory of Cheshunt. (See H at *h*.)

F, arch or festoon, Aimée Vibert, Cheshunt Hybrid, Gloire de Dijon, Jaune Desprez, Longworth Rambler, Reine Marie Henriette, and Waltham Climbers Nos. 1, 2, and 3. (See I at *k*, and J at *o*.)

G, section through centre: *c*, beds; *d*, Grass; *e*, arches; *f*, pillar post of central bed plants.

H, section of pillar bed (E): *g*, bed; *h*, pillar; *i*, Grass.

I, section of arch beds: *j*, beds; *k*, arch; *l*, Grass.

J, section of festoon beds: *m*, beds; *n*, poles similar to the pillar; *o*, galvanized wire rope or wire rope black varnished; *p*, Grass.

K, standard Rose.

L, dwarf Rose.

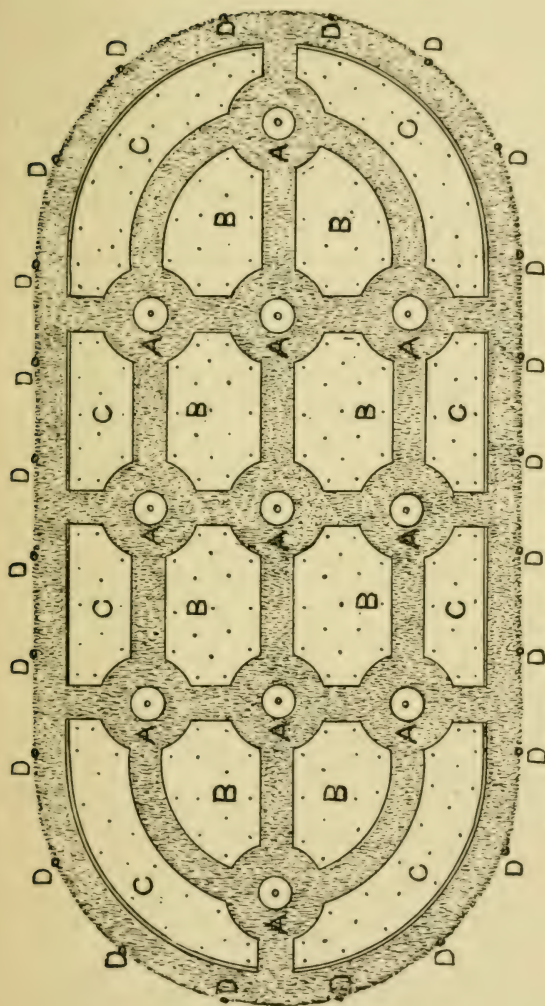


FIG. 2.—PLAN OF ROSE GARDEN.—II.

Scale: 1 inch equals 94 feet.

Length, 116 feet; breadth, 52 feet; or with arches or festoons, 124 feet long and 60 feet wide.

A, pillars. B, Hybrid Perpetuals, the central plants standards, the outside rows dwarfs.

C, Teas and Hybrid Teas, dwarfs.

The design may be on Grass or gravel; if the latter, edged with stone.

If the B beds are planted as dotted (gardener's quincunx or opposite vacancy system), 120 plants will be wanted. If three rows are planted in each bed, and the plants are 2 feet 6 inches from the edge and 3 feet apart, 116 plants will be required. The latter is the better arrangement. When the C beds are planted as dotted, 136 plants will be needed. If two rows are placed in each bed, the rows 2 feet 6 inches from the sides, and the plants 3 feet apart, 128 plants will be wanted.

There is an abundance of rambling and pillar Roses—sprawling fellows, with great long arms of blossom.

The modern Rose Garden owes much to the influence of Dean Hole. In his early Rose-growing days almost unconquerable in the show tent, the famous rosarian gave considerable attention, after his retirement from the arena, to the use of the Rose as a garden flower. His work and influence in this direction are likely to live when the memory of his show triumphs has passed away. More than one exquisite garden stands as a living monument to his skill and breadth of taste. As a case in point, the beautiful Rose Garden of Lady Falmouth, at Mereworth Castle, Kent, may be quoted. There are seen beds on turf, each planted wholly with one variety, the varieties comprising Teas, Hybrid Teas, and Perpetuals. There are arches, some covered with Crimson Rambler and its beautiful daughters Thalia, Aglaia, and Euphrosyne, others clad in glittering streamers of Longworth Rambler and Paul's Carmine Pillar.

The plan (Fig. 1) shown on page 10 is a Rose Garden of the modern type. It is small, and, on that account, may suit the requirements of people whose means are limited. In addition to the plants, there will be an expense for arches and pillars. The most lasting form of arch is one of galvanised wire, painted with one coat of white-lead paint. The pillars may consist of Larch or Ash poles. In Hop-growing districts it is often possible to buy a few stout poles ready "pickled" from a friendly farmer. They should be 10 or 12 feet long, and 5 or 6 inches through at the base. If an arrangement cannot be made with a Hop grower, it will be necessary to peel and creosote the poles, or paint them with Stockholm tar thinned with petroleum.

Fig. 2 (page 11) shows another design, a little smaller, but equally complete. Fig. 3 (page 13) shows a medium-sized garden, complete with its sheltering banks of trees, and Fig. 4 (p. 14) a fourth, with some variation in the form of the beds.

The series of plans here given, with the table of references contiguous to each, will afford suggestions to those who wish to have a complete Rose home, whether small or large; but it would be regrettable if other people were frightened away from Rose-growing owing to lack of space and means for carrying out the ideas suggested. Houses have walls, gardens often have fences; arches and poles for pillars are cheap; beds can easily be prepared. However small the garden, a few Roses can be grown, and pleasure in bounteous store derived from them.

FIG. 3.—PLAN OF ROSE GARDEN ON GRASS AND SURROUNDINGS.—III.

Scale: 1 inch equals 32 feet.

- A. centre, four plants of red Climbing Teas, forming a pillar, and arched over so as to form half of four arches, selected from Waltham Climbers Nos. 1, 2, and 3, Reine Olga de Wurtemberg, Reine Marie Henriette, and Cheshunt Hybrid: *a*, pink Climbing Teas, Princess May, Madame Bérard, Climbing La France, and Madame Alfred Carrière, forming half

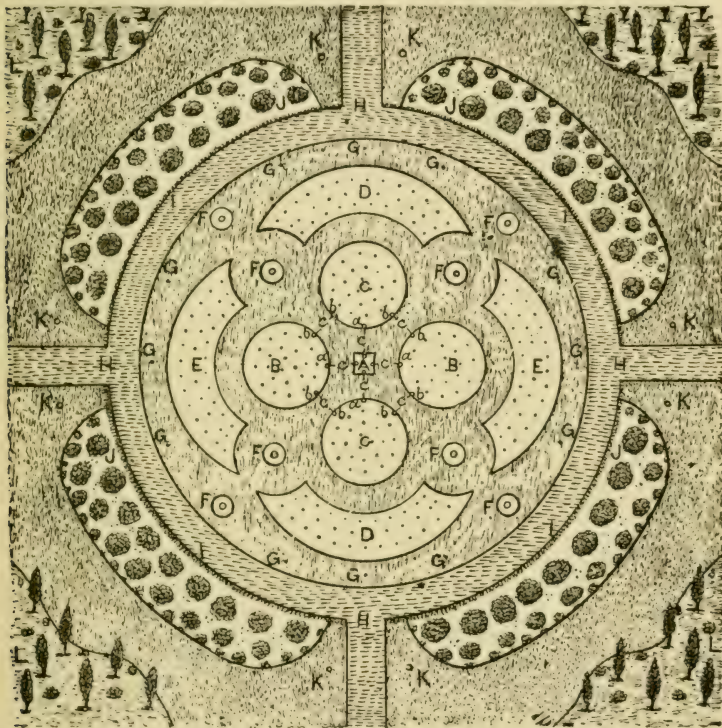
(References to Fig. 3, continued from page 12.)

of the central arches (four); *b*, yellow Climbing Teas, Gloire de Dijon and Gustave Regis, Noisette, Jaune Desprez, and Aimée Vibert (white), two plants of each forming the respective arches; *c*, arches.

B, Teas and Hybrid Teas, standards, ranging from 4 feet at the centre to 2 feet at the side of the beds; or dwarfs.

C, Hybrid Perpetuals, standards or dwarfs.

D, dwarf Teas and Hybrid Teas, with, if desired, China and Japanese Roses.



E, dwarf Hybrid Perpetuals, with, if desired, Perpetual Moss, Île de Bourbon, and Noisette Roses.

F, pillars.

G, standards.

H, gravel paths.

I, a Yew hedge, not allowed to exceed 6 feet in height, or a greater width at the base than 18 inches.

J, Rose bays or Rhododendrons and Azaleas, with Lilliums in the spaces.

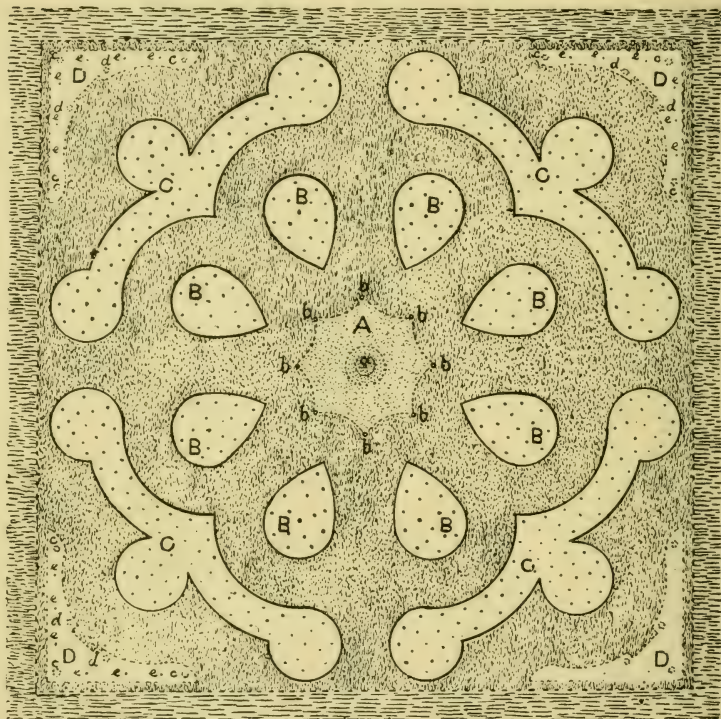
K, Yucca gloriosa recurvifolia.

L, groups of Conifers brought round to the paths, so as to break the wind. Only 4 feet is allowed between the beds, but 6 feet is better.

FIG. 4.—PLAN OF ROSE GARDEN.—IV.

Scale: 1 inch equals 32 feet.

- A, bower: *a*, central pillar with seat round; *b*, arch pillars, up which are trained climbing Roses, continued over the skeleton roof.
- B, Teas and Hybrid Teas, dwarfs, fifteen or sixteen to each bed, the outer rows 2 feet from the edge, the plants 3 feet apart.

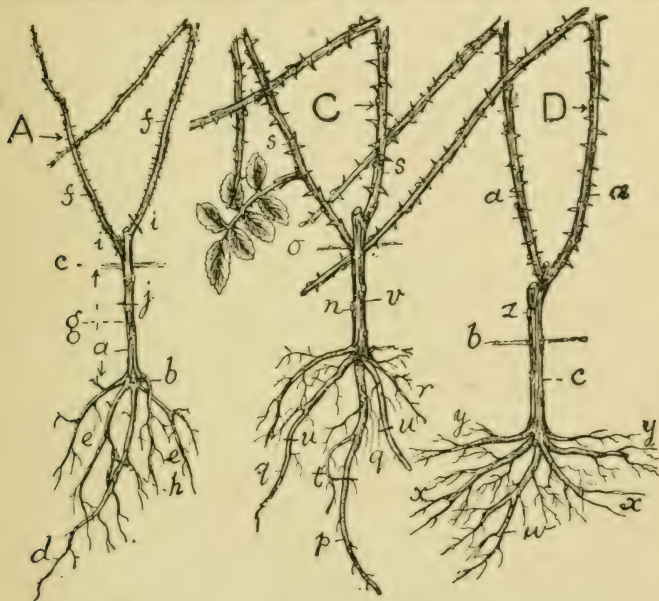


- C, Hybrid Perpetuals, dwarfs. If planted 2 feet from the edge of the bed and 3 feet apart, 62 plants will be wanted to each bed. When planted as dotted more are got in, but the results are not so satisfactory.
- D, Climbing Teas or Hybrid Climbing Teas with dwarf Hybrid Teas: *c*, pillars; *d*, arches with a place for a seat; *e*, dwarfs.

Chapter 4.—Different Types of Roses.

It will perhaps be useful to make a few remarks on the various classes of Roses. People are puzzled by such terms as "Tea," "Hybrid Tea," "Noisette," "Manetti," "standard," and "cut-back."

Some of the terms used in connection with Roses refer to the habit of the plant, others to the section into which it has been placed, and others, again, to the stock on which it has been "worked" (*i.e.* budded or grafted).



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS

FIG. 5.—STOCKS FOR ROSES.—I. MANETTI AND DE LA GRIFFERAIE.

A, one year old plant of Manetti from a cutting inserted the previous autumn :
a, portion of the stem from which the buds were cut clean out ; *b*, the base of the stem cut previously below a joint, transversely, where a callus is formed and roots are emitted ; *c*, the surface of the soil, indicating the depth at which the cutting was inserted ; *d*, a strong, descending root, termed a tap root ; *e*, side or lateral roots, usually more fibrous than the descending root ; *f*, growth or shoots from above the ground ; *g*, point where a bud is inserted in the summer after inserting the cutting

1. *The habit*.—The terms almost explain themselves. Thus, a "standard" Rose is a Rose worked on to the top shoots of a tall, clean stem. A dwarf is a Rose worked close to the ground, the branches forming a low bush. A climbing Rose is a Rose of strong, rambling habit. It is not a true climber, like *Ampelopsis Veitchii*, because it does not throw out growths, the special mission of which is to attach themselves to a wall, as that popular plant does, but the term will serve. A weeping Rose is a Rose so influenced by pruning as to turn its branches towards the ground. All these types are shown in figures in this book.

2. *Sections*.—Garden and exhibition Roses have been classified into various sections for convenience. They are descendants of various species of the great genus *Rosa*, which belongs to the important natural order of the *Rosaceæ*. Some of these species are grown under garden names. Thus in *Rosa bracteata* we have the Macartney Rose, in *Rosa canina* the Dog Rose, in *Rosa centifolia* the Cabbage Rose, in *Rosa centifolia muscosa*

(Continuation of references to Fig. 5, page 15.)

in order to establish a Rose on the stock; *h*, point of shortening the strong root if the plant is lifted in the autumn after budding; *i*, points of cutting the top growth close in; *j*, point of cutting the stock back to the bud when this has started into growth.

Characteristics of the Manetti stock: abundant branching roots with many fibres, free growth, early and late, hence may be budded during September, on it Hybrid Perpetuals succeed admirably, adaptability to either light or strong soils, shoots moderately stout, very spiny, spines closely set, thin and very sharp, leaf composed of about thirteen leaflets, the plant forming a spreading, diffuse bush.

C, one year old plant of De la Grifferaie Rose (Cluster class, *Rosa multiflora*) from a cutting inserted the previous autumn: *n*, stem from which buds have been cut out; *o*, depth of inserting in the soil; *p*, strong descending root; *q*, stout and rather long side roots; *r*, relatively short and fibrous roots; *s*, strong top growths; *t*, point of shortening the descending root; *u*, point of shortening the side roots to induce fibres to form near the stem; *v*, point of budding.

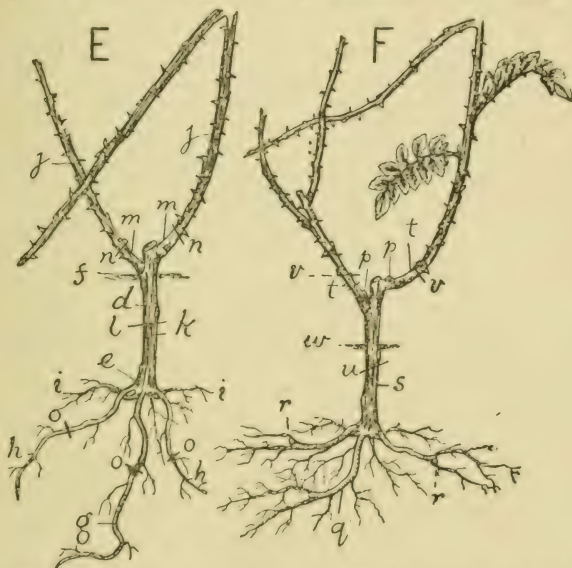
D, two year old plants of De la Grifferaie, showing the result of shortening the strong roots: *w*, descending stronger root, which in planting should be spread out nearly horizontally; *x*, stout side roots, also to be spread semi-horizontally at planting; *y*, fibrous roots carefully preserved at planting, result a much branched fibrous formation near the stem; *z*, point where a shoot was cut off close to a stem; *a*, growth from a shoot shortened at planting to two buds; *b*, depth of planting; *c*, point of budding or grafting.

Characteristics of De la Grifferaie: Strong, extended root formation, both deep and wide, very vigorous habit, shoots strong, joints rather distant, the shoots often growing 10 feet or more in length in one season, very long and strong spines, distantly placed as compared with the Manetti, foliage fine, leaf usually composed of seven leaflets, much larger than the Manetti.

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 6.—STOCKS FOR ROSES.—II. CUTTING BRIER.

E, one year old plant of common Brier or Dog Rose of the hedges (*Rosa canina*) from a cutting of one year' old, thoroughly ripened wood : *d*, the portion of the stem from which buds were carefully removed ; *e*, base ; *f*, depth at which the cutting was placed in the soil ; *g*, a strong root which has taken a straight down course ; *h*, vigorous roots inclined to a downward course ; *i*, short fibrous roots ; *j*, strong shoots from the buds left in the cutting above ground ; *k*, point of inserting a bud in the stem, as sometimes practised for Teas, Hybrid Teas, and other Roses to ensure growth



from the scion if the tops happen to be cut to the ground by frost ; *l*, point of cutting off the top of the stock when the scion is growing ; *m*, points of inserting buds for dwarf plants ; *n*, points of cutting off the shoots of the stocks when the scions are growing ; *o*, points of shortening the roots at transplanting.

F, two years plant of Brier from a cutting : *p*, points at which the first year's shoots were cut back to one bud each ; *q*, straight down root bent into a semi-horizontal position ; *r*, side roots shortened at planting ; *s*, point of budding below ground ; *t*, points of budding on young shoots ; *u*, point of cutting back when the stock is worked below the ground ; *v*, points of shortening when the stock is budded above ground ; *w*, depth of planting.

the Moss Rose, in *Rosa damascena* (held by many botanists to be a hybrid between *Rosa canina* and *Rosa gallica*, but kept up as a good species by Kew) the damask Rose, in *Rosa indica* the China or Monthly Rose, in *Rosa indica borbonica* the Bourbon Rose, in *Rosa lutea* the Austrian Brier, in *Rosa repens hybrida* the Ayrshire Rose, in *Rosa rubiginosa* the Sweet Brier or Eglantine, in *Rosa rugosa* the Japanese Rose, in *Rosa sempervirens* the Evergreen Rose, and so on. In addition to these, however, there are the great sections Hybrid Perpetuals, Teas, Hybrid Teas, and Noisettes. (a) Hybrid Perpetual Roses are varieties resulting from the intercrossing of hybrids of Chinese and Bourbon with *Rosa damascena* hybrids. The exact order is not known. They should bloom twice a year, in early summer and in autumn. (b) Tea Roses are so called because of their tea scent. They bear the general name of *Rosa indica odorata*. They are more truly perpetual than the Hybrid Perpetuals, inasmuch as they bloom continuously under good culture. For the most part the flowers are smaller and more symmetrical than the Hybrid Perpetuals,

(References to Fig. 7, page 19.)

PICTORIAL PRACTICE—PLAIN HINTS IN FEW WORDS.

FIG. 7.—STOCKS FOR ROSES.—III. SEEDLING BRIER.

- G, one year old plant of seedling Brier or Dog Rose (*Rosa canina*): *x*, the radicle or descending axis developed into a tap root; *y*, the lateral or side root; *z*, the collar or point of junction of the descending axis (root stem) and the ascending axis (stem above ground) where buds are forming which, unless removed, develop into strong growths; *a*, the central growth; *b*, the side growths or lateral shoots.
- H, a two years old transplanted seedling Brier: *c*, the tap root transformed into a spreading root by being shortened to about 6 inches from the collar at the time of transplanting, and being bent to a nearly horizontal position; *d*, the side roots spread out semi-horizontally at planting, thus securing a fibrous development near the stem and surface of the ground; *e*, the collar or point from which buds (little reddish knobs) were cut off at planting; *f*, the top of the plant, which has extended and pushed side shoots; *g*, point of budding, always at the collar, it having been found by experience that the stock does not thicken equally when the junction of stock and scion is below ground.
- I, two years old seedling Brier planted the previous autumn, when the seedling had only one weak shoot and a straight down descending tap root with a few lateral or side fibres. In planting, a trench is taken out by line, and the plant placed against the bank, with the radical or tap root bent horizontally, hence the roots are all on one side: *h*, the root formation; *i*, the root stem; *j*, the collar; *k*, the central growth; *l*, the shoots which have sprung from the collar; *m*, the point of budding when below ground, to which practice some still adhere.
- One of the characteristics of the seedling Brier is a vigorous root growth, as compared with top growth in the first, and even second year. A fibrous root formation is promoted by shortening the tap root at

(Continuation of references from page 18.)

the time of transplanting the seedlings, which is done when they are a year old, or the first year after sowing; in the following season they are ready for working. The root system increases in vigour



as the years roll by, and thus accords with the development of the head of the Rose. It is the stock *par excellence* for Teas and Hybrid Teas, and is also good for Hybrid Perpetuals, and is not nearly so prone to suckering as the cutting Brier and stock collected from the hedge-rows

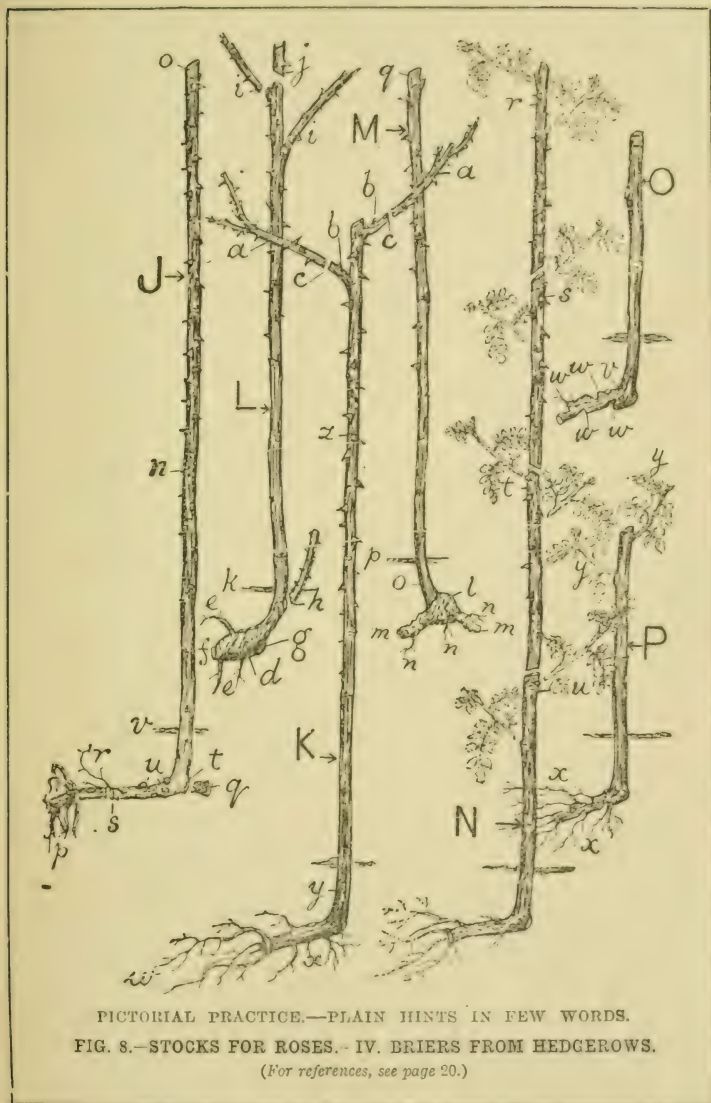
while there is a preponderance of light colours. Varieties with the deep, glowing colours of the Hybrid Perpetuals are rare. (c) Hybrid Teas are for the most part an entirely modern race of cross-breds. They are increasing in numbers and popularity. (d) Noisettes have descended from a hybrid between *Rosa indica* and *Rosa moschata*. They bear their flowers in bunches as a rule.

These are the principal sections.

3. *The stocks*.—Roses are sometimes spoken of as (1) "Manetti," or "on the Manetti"; (2) "seedling Briers," or "on the

(References to Fig. 8, page 21.)

- J**, a straight, clean-stemmed Brier or Dog Rose (*Rosa canina*) as taken from a hedgerow, prepared, and planted: *n*, stem; *o*, a slanting cut at the desired height for a standard, made just above a joint or promising bud; *p*, the jagged end of the underground stem or root; *q*, part of the underground root or stolon; *r*, a fibrous root, the only one on the stock; *s*, the point of cutting off the end of the jagged rootstem; *t*, the point of detaching the stoloniferous root; *u*, round reddish knobs on the underground stem, which, unless cut off carefully, would develop into suckers; *v*, the depth of planting.
- K**, the stock **J** in the autumn after a year's growth and working: *w*, roots which have pushed from the rootstem cut; *x*, roots from the rootstem; *y*, the underground portion of the stem free from suckers; *z*, the stem from which all growths have been rubbed off, except in the case of the two uppermost joints, while quite small; *a*, vigorous shoots, which were shortened after the buds were inserted; *b*, Rose buds, which have "taken"; *c*, the points of cutting off the Brier shoots.
- L**, a Brier with a knob-like rootstem and side branches: *d*, the rootstock; *e*, fibrous roots; *f*, a clean cut below the rootstock, where a callus usually forms and roots are emitted; *g*, the point where a stoloniferous rootstem has been cut off; *h*, a shoot produced just above the ground from a stem cut off close; *i*, the side shoots cut close to the stem, but leaving the basal buds; *j*, the top cut off to a point where side growths are desired to issue; *k*, the depth of planting.
- M**, a Brier trimmed and planted: *l*, the curled rootstock; *m*, the strong roots shortened; *n*, the fibrous roots, which are carefully retained; *o*, a portion of the stem from which buds have been removed; *p*, the depth of inserting in the soil; *q*, the top properly cut off at the desired height.
- N**, a Brier stock showing the different and usual heights of standards: *r*, 4 feet; *s*, 3 feet; *t*, 2 feet; *u*, 1 foot—the dotted outlines indicating the respective growths for budding in due course.
- O**, a Brier, trimmed and planted for a 1-foot standard, with the outer stock notched to induce rootlets close to the upright stem: *v*, the part from which buds have been carefully cut off; *w*, the notches.
- P**, the result of notching the rootstock: *x*, fibres; *y*, top growths.
- The hedgerow Brier is the only stock so far found suitable for Roses as standards. The characteristics of the Dog Rose are a vigorous growth, with very stout curved downward spines, great hardiness, strong and relatively few roots, more disposed to extend than to form fibres, and still more to produce stoloniferous underground stems and push suckers.



seedling Brier"; (3) "cutting Briers," or "on the cutting Brier"; (4) "Grifferraies," or "on the Grifferraie"; (5) "own-root." The first four terms indicate the stocks on to which the Roses are worked. A "Manetti Rose" is a Rose worked on to a Manetti stock (see Fig. 5, p. 15). This stock, which was raised by Signor Manetti, of the Botanic Gardens, Milan, is not quite so popular as it was soon after its introduction some 60 years ago. Most Roses take well on it, but it is not lasting. Brier stocks are extensively used, especially for Teas. Where standards are wanted, Briers are taken out of the hedges in autumn (see Fig. 8, p. 21). For dwarfs, it is customary to work on cultivated stocks, raised either from seeds (see Fig. 7, p. 19) or cuttings (see Fig. 6, p. 17). The De la Grifferraie stock (see Fig. 5, p. 15) is growing in favour on account of its hardiness and vigour. Most climbers do well on it, particularly Maréchal Niel.

Stocks sometimes overgrow the Roses they ought to support. Foliage with seven, nine, or more leaflets is probably Manetti or Brier, not Rose.

"Own-root" Roses are trees raised from cuttings of their own wood.

The terms "maiden" and "cutback" are also used in connection with Roses. They may apply to any class of stock, because a "maiden" Rose is simply a one year old plant, and a "cutback" a tree which has passed its first year and been pruned.

With this preliminary explanation, and the illustrations which accompany it, the way is cleared for a chat about propagation.

Chapter 5.—How to Propagate Roses.

WE have learned what Rose stocks are, and may now turn to a consideration of the ways and means of getting Roses on them.

In the first place, "catch your hare." This may not be very easy. Amateurs and gardeners rarely bud or graft Roses except on to Briers from the hedges, for the simple, but sufficient, reason that they have nothing else to work them on to. The cultivation of Manetti, De la Grifferraie, and Cutting and Seedling Briers is practically confined to the trade.

This sounds rather like damping newly awakened ardour,

but things are really not so bad as they seem. It is easy to gather Brier heps, "stratify" them (that is, lay them in sand for a few months) and raise plants from them. It is not difficult to strike cuttings of Briars (we shall come to cutting making very soon) and procure plants from them also. It is quite within the bounds of possibility to get shoots of Manetti and De la Grifferaie, and turn them into workable material. All this, I say, can be done. If I am asked whether it is worth while, since Roses ready established on the stocks can be bought so cheaply, I am given pause. Truth to tell, the commonsense of the Rose-growing community has decided that it is not. Some few Rose growers like to propagate stocks of various sorts, and do their own working; most prefer to buy the plants. It is a matter of temperament.

If, however, the raising of Rose stocks from seeds and cuttings is to all intents and purposes left in the hands of the nurserymen, it by no means follows that Rose propagation is not worth learning. It is well to know how to strike cuttings, because many Roses do well on their own roots. It is still better to know how to bud, because every rosarian works, or wants to work, a few hedgerow Briars some time or other.

The man or woman who wants to bud some standards has the impulse, as a rule, when the twin influences of the flowering season and other people's work are upon them. That is to say, in July or August. Unfortunately, they awaken simultaneously to the fact that they have no Briars, and, what is worse, will have to wait till November for them, so that there is the dreary prospect of a whole year's delay before budding can be begun. Of course, with people of the blow-hot-blow-cold class the inevitable happens. Long before November comes the Briars are forgotten, and it is July of the following year before another thought is given to them.

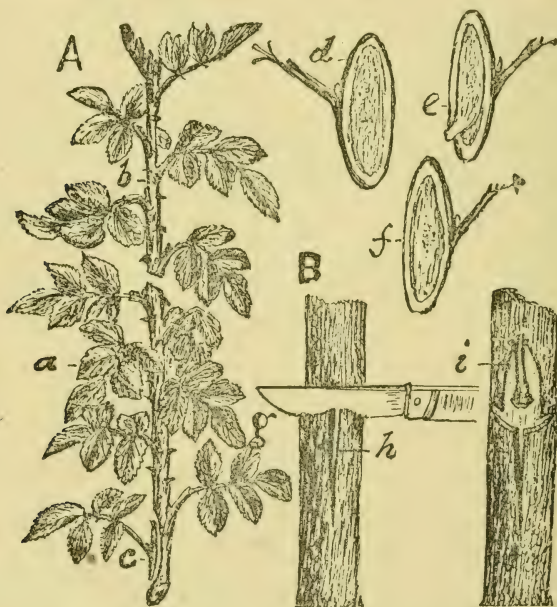
The best thing is to go and give an order for Briars to the acknowledged Brier hunter of the district directly the fever is felt. This forager is generally a well-known character, and I am at a loss to know how the novelist has missed him. He (the forager, not the novelist, of course) has exceptional gifts in trespassing and stealing, and people whose consciences will not permit them to appropriate portions of their neighbours' hedges find these qualities of his peculiarly helpful. It may be remarked, by the way, as a singular phenomenon connected with horticultural morality, that many people whose principles will not allow of their making a foray in person are ever ready to pay the Brier-hunter a shilling a dozen for his wares, and ask no questions.

Fig. 8 (page 21) shows the stamp of material the Brier buyer or collector wants to get, and also how to deal with it—in part. Let us follow the standard up. It is procured, prepared, and planted in November. In spring fresh growth starts. In July

or August (a showery period in either month will do) it is ready for budding.

The number of buds to put in must depend, naturally, on the number of suitable branches on the top of the Brier stem. If there are four, five, or six shoots as thick as a lead pencil, more or less, four, five, or six buds may be inserted, one in each.

Beginners often put the buds in near the tips of the branches: this is wrong. They must be inserted as close to the base as they can be got. After a wet spell there is no trouble in preparing the branches, because, with a free flow of sap, the bark rises readily. The sharp edge of a knife should be pressed through the bark about $1\frac{1}{2}$ inches from the base, at right angles with the branch. Then the point of the knife should be pressed into the bark at the very base, and drawn up the centre of the



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG 9.—HOW TO BUD ROSES.

A, growing shoot: *a*, *b*, buds; *c*, bud removed; *d*, bud with pith; *e*, commencing to remove the pith; *f*, bud ready.

B, stock: *g*, transverse cut; *h*, longitudinal cut; *i*, bud inserted.

shoot until it enters the cross cut first made. If a proper budding-knife with a flat handle is used, it can now be reversed, and the bark raised at both sides by running the bone along beneath the cut edges.

There are two salient points connected with the buds. One is to keep them fresh; the other is to get out the wood without pulling the growing germ away with it. A little variation in the size of the bud, or in the time of budding, is nothing serious; but these points are vital. Beginners should always cut the buds out rather long. Suppose that a healthy summer shoot as thick as a small cigarette is taken. One inch above a leaf gently slide the sharp edge of a knife through the bark, and draw it down underneath the leaf, about half-way through the shoot, bringing it up 1 inch below the leaf, and then slicing off with it a tail of bark. Crop off the leaf, except for $\frac{1}{2}$ inch of stump, turn the bud out face upward, and twist the "tail" round one finger, holding it firmly with another. Drawing back this "tail" will cause the wood to rise, so that it can be grasped between the finger and thumb and pulled out. If the small green germ, not much bigger than a pin's head, which lies in the hollow of the bud, comes out with the wood, leaving nothing but a mere shell of bark, throw the bud away and get another. With practice, it will be found that the bud can be so manipulated as to get the wood away without pulling forth the germ. When that art is mastered, the principal stumbling block is removed.

Keeping the buds fresh is simple. As fast as they are prepared they should be dropped into a vessel of water, and directly enough are ready to bud a few of the standards, get it done. Insert each bud, see that the edges of the bark evenly overlap it, and then bind the whole gently but firmly round from top to bottom with soft worsted.

It can very soon be seen if the buds are not going to take, for they will begin to shrivel. If they remain fresh they will grow, but if they remain dormant all the winter so much the better. When they start in spring, cut back the Brier shoots, leaving only a stump a few inches long to tie the young Rose shoots to as they develop. At the end of the first growing season the stumps may be cut away, and the standard is a Brier no longer, but a full-fledged Rose. Fig 9 (p. 24), shows a growing shoot suitable for yielding buds, the buds, and their insertion in the shoots.

Propagation by cuttings presents no serious difficulties. Ripe, brownish pieces of the current year's growth, 8 or 9 inches long, with a piece of the older wood, termed a "heel," at the base, are suitable, and they should be prepared and inserted in September. It is well to put them in deeply, say, two-thirds of their length, and make the soil firm. Should the frost heave them up in winter, tread the soil back again directly it softens. I have rarely seen better Roses of any class than the



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FIG. 10.—SELECTION OF WOOD FOR ROSE CUTTINGS.

(For references, see foot of page 27.)

own-root plants raised by the well-known Kentish exhibitor, the Rev. J. R. Buchanan, of Herne. He is particularly successful with Teas. Among these, Madame Lambert, Hon. Edith Gifford, Innocente Pirella, and Souvenir d'Elise Vardon do wonderfully well. Some varieties make good plants in a year, others in two years. Fig. 10 shows the kind of shoot to choose for cuttings, and Fig. 11 the cuttings inserted.

The grafting of Roses is so rarely practised out of nurseries, and withal is so simple, that it is scarcely necessary to deal with it at length, or to illustrate it. Seedling Briars just starting growth in small pots make the best stocks, and in the winter or early spring, with a close propagating case having bottom heat at command, there is no trouble. The scion should consist of a



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FIG. 11.—HOW TO INSERT ROSE CUTTINGS.

A, a, b, c, cuttings; d, soil.

stout piece of firm, ripe Rose wood with a leaf. A slice may be taken out of the side of the stock, and the scion cut to fit the space. Then the two surfaces should be fitted together and tied. Covering with wax or clay is not necessary. They should be shaded, and dewed over frequently, until a union has taken place.

(References to Fig. 10, page 26.)

A, current year's shoot: *a*, tip, too soft; *b*, middle, good if ripe and firm; *c*, better still, may be taken with a heel (*d*) of older wood (*e*).

B, branch with side growths *f* and *g*, the latter taken off with a heel—both will do; *h*, too stumpy.

Chapter 6.—How to Prepare the Soil.

ALL soils will not grow Roses equally well, but most kinds may be made to yield satisfactory results.

There is comfort in this dictum. In particular, it cheers the heart of the man who has heard so much about clay for Roses, and has no clay within a hundred miles of him.

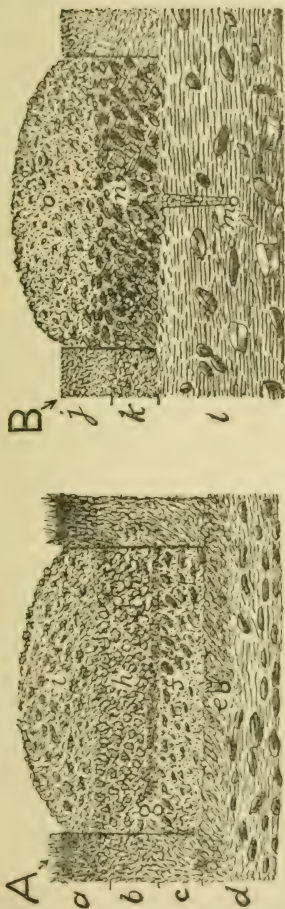
Emphatically all soils will not grow Roses equally well, and it is honest and prudent to recognise the truth. But, on the other hand, it is foolish to abandon the idea of growing Roses just because the soil in the garden is not of exactly the same texture as that of our all-conquering friend Mr. Silvercups.

There are not many golfers whose clubs are such magical weapons that every stroke off the tee lands the ball on the green, where a second stroke invariably puts it down—the round in 36, so please you! The average golfer does this only in his dreams; in his playaday hours he plods round in 180 or thereabouts.

It is nice to muse over imaginary triumphs on the Rose links—how, if we did happen to have that beautiful clayey soil which Silvercups possesses, at once substantial and silky, mellow and moist, his achievements in the show tent would pale before ours. Already our sideboard groans under the weight of the trophies we have won with that soil—the soil which we never see except in the still night hours. We bow acknowledgments and murmur thanks when congratulations pour in—only to be prodded, and bidden not to snore.

The awakening need not bring despair. After all, Roses will do on ordinary soil, if they are looked after, and cultivated, and loved. The soil at Kew is not wonderfully substantial, rather is it on the light side; yet Roses thrive there, and some of the “garden” varieties—which, remember, are amongst the most beautiful of all—even luxuriate. If the worst came to the worst, if the soil was little better than sand, there might still be Roses, for the rampant, huge-stemmed *Rosa rugosa* will succeed on the lightest of land.

The great essential is cultivation—the soil trenched and tumbled and manured, trees well planted and pruned. The stiff soil will not grow Roses well if it is not prepared. First as to drainage. If the soil is clay on a level, it ought to be drained. Hideous “ought”! Draining is troublesome, expensive, and above all “messy.” Nobody likes to see clay-smeared labourers flinging heaps of sticky soil about the place, and cutting zigzags as though making entrenchments for an army. The temptation



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 12.—PREPARING SOIL FOR PLANTING ROSES.—I.

A, section of a heavy, deep loam, or loam resting on clay. Soil before preparation: *a*, top soil and turf; *b*, second spit; *c*, subsoil, heavier, and generally too stubborn for working readily when brought to the surface; *d*, clayey stratum with stones. Soil after preparation: *e*, 3-inch tile or pipe drain, which must communicate with a main of the general land drainage, or itself have a proper fall and outlet; *f*, subsoil broken up with a fork, and one-fourth of horse manure worked in; *g*, turf (top 2 or 3 inches); *h*, second spit soil; *i*, top spit soil, to which is added one-fourth of decayed horse manure.

B, section of a heavy clay soil. Before preparation: *j*, top spit; *k*, subsoil of stiff, heavy clay; *l*, solid clay with or without stones. Bed after preparation: *m*, 3-inch drain with proper fall and outlet; *n*, second spit soil broken up, with one-fourth of rather fresh stable manure and a similar proportion of sand or road scrapings (not ashes) added; *o*, top spit soil on which a dressing of quicklime has been spread some time previously at the rate of 1 cwt. per rod. If the surface of the ground be in Grass, this may be pared off and placed on the broken up bottom soil.

to do without it is strong, yet land that lies waterlogged for several months of the year is not good for Roses.

If the ground is under turf, one of two courses may be taken—the turf may be cut off and rolled for stacking, to come in for potting material a few months afterwards; or, if better material is available for this purpose, it may be chopped up and incorporated with the soil.

In any case, the top soil must be taken off and the next spit stirred. It is better still to remove two spits and turn over the third. Place the different spits back in the same positions as they occupied at first, and spread manure between them.

A soil on gravel is so far better that it will not require to be drained if on the level, but there its superiority ends. Such soils are frequently so light that it becomes advisable to add clay, if clay is procurable without a ruinous expenditure. If the upper strata are sandy, clay is particularly desirable for the planting layer. Mixed with decayed yard manure, it will add substance as well as fertility.

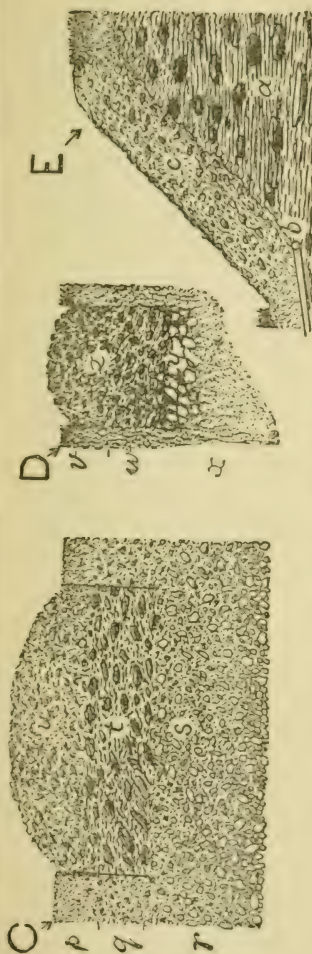
Many growers who have very stiff land to deal with burn the surface soil. This is an admirable plan, but naturally it entails expense. Ridging and liming will disintegrate it more cheaply. The soil should be ridged and well dressed with mortar rubbish in autumn, then late in winter manured and dug.

In dealing with a poor chalky soil, it is almost obligatory to go in for thorough measures and make capacious "pockets" for the Roses. The natural soil should be removed to a depth of at least 2 feet, and a mixture of turfy loam and yard manure substituted, 2 parts of the former to 1 part of the latter, with a sprinkling of mortar rubbish for preference.

Trenching and manuring soil raise its level. A piece of ground that has two spits shifted, and the third turned over, and which, moreover, has had additions of manure and mortar rubbish made to it, will be nearly 1 foot above its former level when the work is finished. It is, as might be expected, very loose, and a walking-stick pressed in will easily penetrate its entire length. Considerable settling must be expected, and should be allowed for in the planting.

Here, then, in a few words, is the commonsense of soil preparation for Roses—stiff soil drained, ridged, limed, manured, and pulverised; light soil thickened with clay and stable manure.

The earlier in autumn the task can be tackled the better. There is the more time to get it done, and the more help from the elements. It is not necessary to plant immediately. Order the Roses early, of course, to ensure getting good stuff, but if the bed is not ready when they come, practise no undue haste. Lay the Roses in by the heels and go on with the soil preparation—steadily, deliberately, thoroughly.



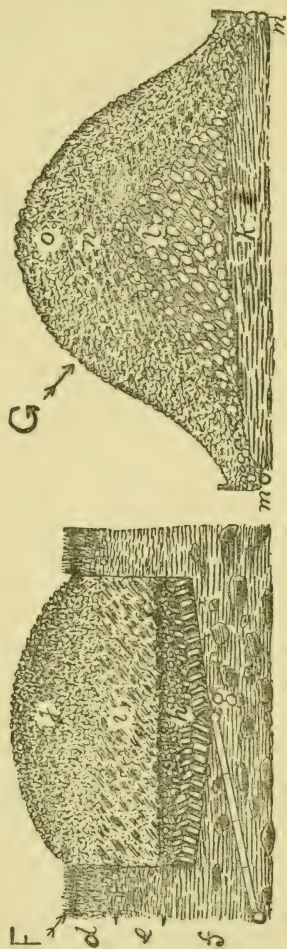
PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 13.—PREPARING SOIL FOR PLANTING ROSES.—II.

C, section of gravelly soil. Soil before preparation : *p*, top spit, relatively free from stones, of free-working loam ; *q*, second spit, coarser than the top soil, and more compact, yet admitting of the free percolation of water ; *r*, gravel with some reddish loam interspersed. Prepared bed : *s*, undisturbed bottom, no drainage being required ; *t*, second spit, mixed with about one-fourth each of clay and half-decayed farmyard or cow manure ; *u*, top soil turned upside down, an addition of old turf from a clay soil, decayed cow manure, and old mortar rubbish being made.

D, section of sandy soil. Soil before preparation : *v*, top spit with vegetation ; *w*, very sandy second spit ; *x*, sand. Prepared bed : *y*, clay, clayey marl, or chalk on which is placed turf from the surface ; *z*, prepared soil.

E, section of a prepared slope : *a*, natural strata of clay, stones, and other stubborn material, the face being made uneven ; *b*, drain running at the base of the natural slope, with an outlet to the main land drain ; *c*, good soil on which to plant the Roses.



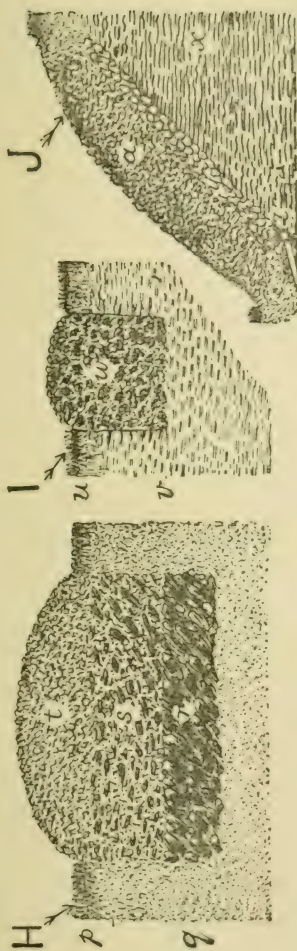
PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 14.—PREPARING SOIL FOR PLANTING ROSES.—III.

F, section of very heavy clay soil. Soil before preparation: *d*, very strong loam verging into clay surfaced by turf or sward; *e*, yellowish clay; *f*, clay and stones. Preparing bed: *g*, 3-inch drain attached to a land drain; *h*, drainage of stones or broken bricks, laid edgewise, with very small stones or rubble on the top, and on this thin sods face downwards; *i*, second spit soil, one-half of which has been burned, then mixed with one-fourth of fresh horse droppings or stable manure; *j*, top spit soil, to which has been

added quicklime, at the rate of 1 cwt. per rod, left for a time to become mild before being mixed with the soil, then one-fourth of stable manure added.

G, section of mound formed on heavy land, where, from its position, it cannot be more than shallow drained; *k*, clay from which the surface layer of soil has been removed; *l*, rubble, roughest at the bottom and finest at the top, with drains at the sides, in fact all round the base; *m*, drains; *n*, soil mixed with manure; *o*, prepared soil.



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FIG. 15.—PREPARING SOIL FOR PLANTING ROSES.—IV.

H, section of very sandy soil and prepared bed.

Soil before preparation : *p*, surface soil with turf and not more than 2 or 3 inches of dark vegetable mould ; *q*, sand. Prepared bed : *r*, clay ; *s*, top spit mixed with one-third of well pulverised clay ; *t*, prepared soil—rather strong loam with one-fourth of stable manure added, or, if of a light nature, old cow manure.

I, section of chalky soil and prepared bed. Soil before preparation : *u*, thin surfacing of soil

with herbage ; *v*, chalk. Prepared bed : *w*, prepared soil.

J, section of bank : *x*, natural clayey strata ; *y*, rubble on the face of the natural formation for drainage, thus preventing the swamping of prepared soil by water from higher ground ; *z*, drain at the base of the incline, which must be connected with the land drain, or itself have a proper fall and outlet ; *a*, prepared soil.

Chapter 7.—How to Prepare the Roses.

THE Roses are here, the ground is ready. No longer is the Rose grower a navvy; he has become an artist.

With a complacent eye he surveys the bed, which is swollen like a boa constrictor after a heavy meal. With a sharp knife in hand he picks up the first Rose.

Reader, have you tasted the joy of that moment? If not, make haste to do so. If you read this in the autumn, pass on to the chapter giving selections, sit down, make out your list, post it, and then take up the book again to read what I am going to say about planting.

If you read it in the winter, do likewise, but give the nurseryman a little latitude about the varieties, because he may have sold out of some of them.

If you read it in the spring, visit the nursery if you can, and pick your plants from the best of those left. Allow a wider margin for substitutes if you post the order.

If you read it in summer, try and see the Roses that I shall presently chat about, either at a show, or in a garden, and so strike up a personal acquaintance, that will ripen into a warm friendship, or even a deep attachment, later on.

All these stages centre on one thing—that proud, exalted, glorious moment when you stand in the garden, tree and knife in fist, ready to trim and plant.

The hint given above as to substitutes tells of one reason why it is wise to order early. The Rose planting season is like the wait for refreshments of the limited mail—there are always a great many people tumbling over each other to be first served. When you read that a wait of twenty minutes is allowed for breakfast, you settle down comfortably. How often have you looked sleepily at a watch, got out of bed, tubbed, shaved, dressed, breakfasted, and caught a train in eighteen minutes! Of course, there is no hurry. But when the groaning express slows up, and everybody except yourself flies off and crowds the tables, and the rolls have run out by the time you saunter up, things look different.

The Rose planting season extends from October to April—say six months. Well, when one has half the whole year to plant one's Roses, why any unseemly haste? Why not proceed with dignified deliberation—think about it in October, fill up the inkpot in November, look for a stamp in December, send for a catalogue in January, lose it in February, write and abuse the nurseryman for not sending it in March, and finally get the

Roses in April? A comfortable, stage-coach, London-to-Brighton in fifteen hours mode of progression, in short.

Alas! there is that hustling, hungry crowd of early birds to think about. If you do not allow for them, your chance is gone. Substituting saves the situation in a measure, but in my humble experience as a Rose buyer the sorts the nurseryman picks to take the place of those which he has sold out are invariably varieties which you have. If you have none at all, the substitutes are certain to be Roses you do not care about. I cannot explain this phenomenon; I can only state it.

For my own part, the particular substitutes which have poured down on me ever since I began to buy Roses are Marie Baumann and Madame Lambard. I have received enough of these to set up a nursery with them. I have been peppered with them, pelted with them, bombarded with them. I have written imploringly at the foot of an order: "If you can't supply anything, don't substitute with Marie Baumann or Madame Lambard," and the first variety which has appeared when the unpacking begins is always one of this pair. I love Marie Baumann, I love Madame Lambard. I have been constant to Marie Baumann ever since I saw her first, in the days before even my teens began. I have been faithful to Madame Lambard from the day that Lacharme sent her out—yes, more than twenty long years ago. But now—dare I confess it!—these sweet and lovely ladies grow superfluous. I am prepared to love single spies (so long as they are feminine), but not whole battalions.

Ordering early is therefore good, because it gives you a reasonable chance of getting what you want. Another advantage that might be claimed is that you get better plants. There is a tradition that the nurseryman hunts over his quarters and picks out the very best plants for the earliest customers. I may make a modest claim to know a little about nurseries, having spent many happy years in them, but I have never seen this going on. However, if the dealer does not search about for the best trees for his early orders, he certainly passes over the worst. There are a few poor plants in every drift, which he does not mean to sell, but when the end of the season comes, and the rows are very thin, and the customer is very peremptory about having no substitutes, and the workman who is sent for the plant has his ear strained to meet the imminent melody of the dinner bell—then things happen.

The Roses have reached us, and reached us early. If the ground is ready for them, we trim and plant. If it is not, we "heel them in" until the bed is fit for their reception. All things considered, November planting is the best, but there is not much in it. I would rather plant in March in a properly prepared bed than in November in a poor one. Roses "heeled in"—that is, laid in a shallow trench, roots covered with soil,

their tops clear, but convenient for covering in hard weather, are perfectly safe. It might be argued that if they cannot be planted early they may as well stay in the nursery, at somebody else's risk than yours, till spring. I used to look at it in that way myself until I had reached my hundred with Marie Baumann and Madame Lambard!

Late October or early November planting is very good, because (1) there is warmth left in the soil, and the trees are quite likely to make root before winter; (2) there is generally time to do the work thoroughly.

Whatever the period of planting, however good the quality of the trees, a little trimming is likely to be necessary. And that is why—man being naturally a cutthroat—the grower feels such a glow of delight when he finds himself with a bundle of Roses beside him and a sharp knife gripped tightly in his dexter paw. If there is a tap root going nearly straight down it had better be shortened, and any and every root that is torn, or broken, or jagged, or is in any way whatever an imperfect root, should be cut back.

It is not a case for indiscriminate hacking, but for intelligent curtailment. Unless a root is very strong and straggly, there is no necessity for cutting more than the injured part away; directly clean, healthy wood is come to the pruner should hold his hand.

If I might venture to just mention my own *modus operandi* in this matter of preparing Roses for planting, I should do so as follows: First of all, I talk (apparently aimlessly) at the breakfast table about the wonderful quality of the new trees, and the astonishing crop of flowers which they are likely to produce. This secures me the ardent sympathy of the presiding genius of the coffee-pot, and the pick of all the old gloves in the house. I select something pretty tough for my left hand, but have my right hand only lightly covered.

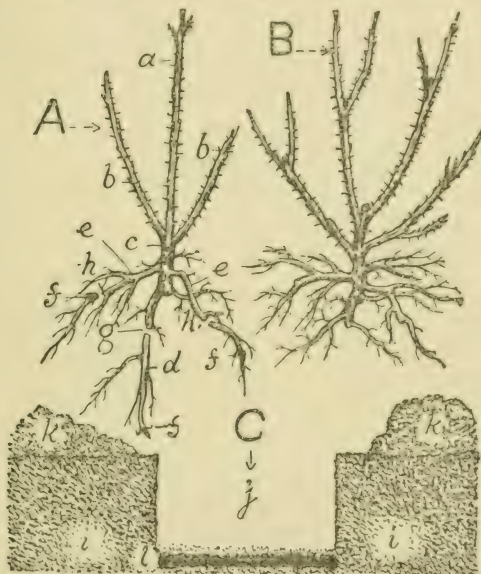
Taking up a Rose tree with my left hand, and gripping it firmly by the stem, I poise it, and run my eyes over root and branch as searchingly, as deliberately, as fondly as a connoisseur surveys his uplifted glass of wine. It is not a mere casual glance, remember. It is a soul-stirring, epoch-making survey. As the lover gazes on his inamorata when he discovers her in the conservatory with her last partner, so I gaze on my Rose—adoringly, jealously, appealingly, threateningly—love and menace and exquisite pain all commingled.

This examination tells me all I want to know about my Rose. I have, so to say, got its balance. Seeing what it is, I also see if it is what I want it to be. A bit of dead root is seen here—it is snipped off; a broken piece shows there—it goes likewise. No clean, healthy, unbroken root is ever touched, unless, perchance, it is a roystering fellow, threatening to get away into the lower regions of the earth; then it is trimmed back.

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 16.—PLANTING ROSES.—I.

A, a one year old dwarf Hybrid Perpetual lifted and prepared for planting : *a*, shoot from the central eye of the bud inserted in the previous season (sometimes the only growth) ; *b*, shoots from the buds at the sides of the central one (not always present) ; *c*, junction of stock and scion ; *d*, strong downward root, usually termed the tap root, from the base of the stock ; *e*, the side roots ; *f*, points where roots have been damaged in lifting, packing, transit, or



careless unpacking ; *g*, point of shortening the tap root to cause it to produce roots laterally ; *h*, points of shortening the side roots in order to cause fibres to push near the stem.

B, the plant A a year older, showing the result of cutting back the strong roots. Fibrous roots have been thrown out and a healthy root system has been established. The roots are shown somewhat above the natural size for clearness.

C, section of hole in a prepared bed : *i*, bed of prepared soil ; *j*, excavation 12 to 18 inches wide, circular, and 10 inches in depth ; *k*, soil taken out ; *l*, the layer, about 1 inch thick, of thoroughly rotted manure placed at the bottom of the hole and covered with a little fine soil.

Chapter 8.—How to Plant.

WHEN the soil has been properly prepared for Roses, planting is both swiftly and simply performed. When it has not been properly prepared, planting is slow and difficult.

People may have realised this with their Geraniums. Set out to plant a flower bed without a preliminary digging, and the trowel can only be driven in with an expenditure of force that the economical mind recoils from. Use the fork first, and the trowel does its work with ease.

When the soil has been well trenched for Roses, shovelling out to get in the plant is child's play. The spade never bites and jars; it sinks freely and luxuriously in, revelling in its pleasant duty. The soil comes out all a-crumble.

The hole may be made nearly 1 foot deep. If that has not brought the operator into the neighbourhood of the manure used in the bastard trenching, a light coat of well-decayed stuff may be laid in and covered with a couple of inches of soil. Do not make a deep, narrow hole and pack it with rank dung; that is bad.

Set the plant squarely in the hole, and see how things are for depth. What we are aiming at is to finish with the collar just, and only just, covered with soil. If when we set the plant in we have so far miscalculated in our shovelling that the collar is distinctly below the surface level, we must withdraw the tree and put in a little more soil; if the collar is above the level we must have some out.

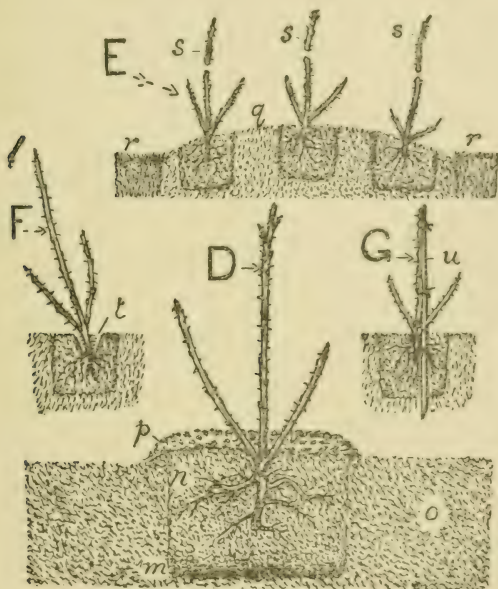
We shall find from experience that the rootstocks of our trees differ, some being deeper than others. We could, of course, so manipulate them as to make them very much alike; but that is just what we are not going to do.

The next step to getting a proper level is to cover. Stand the plant square, and work some fine soil about the roots. Lightly shake the tree, and settle this soil in among the roots. Afterwards, fill the hole. People are often rather nervous about firming the soil. They fear the weight of the gardener's foot, and dread injury to the roots. These fears are, in the main, groundless. When one has had experience in planting, he does not damage roots in firming the soil with his foot. Using the toes and ball, he gently, but withal firmly, "kneads" the soil into a compact mass.

Let the absolutely upper layer of soil be loose, and scatter over it a thin mulching of manure; then the work is done.

What, though, about staking? It ought not to be wanted

for dwarfs, although necessary for standards. If I had very strong dwarfs to deal with, especially in an exposed position, I might stake, because, if heavy winds caused the plants to sway, the collar would be exposed, and the roots would not have a proper chance of getting hold. But it is more likely that I should take off a third of each strong branch, to reduce the wind surface. There is no harm whatever in this, even if it is done in autumn, so long as pruning proper is deferred till spring.



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 17.—PLANTING ROSES.—II.

- D, A Rose tree properly planted : *m*, a layer of thoroughly decayed manure covered with fine soil ; *n*, the soil which has been excavated replaced, the roots spread out in the hole, with the collar just below the surface ; *o*, the prepared bed ; *p*, a mulching of manure 2 inches thick.
- E, a section of a bed with the trees properly planted : *q*, bed ; *r*, grass ; *s*, shoots shortened a little to avoid rocking by the wind.
- F, a section in which the tree has been rocked hither and thither by the wind : *t*, a hole made at the stem, thereby injuring it and affecting the rooting prejudicially.
- G, a plant staked : *u*, stake, and shoot secured to it

In the case of standards, the stake should be regarded as indispensable, and put in with the Rose. And let the stake be a long one—5 to 6 feet if possible. It should be 18 inches in the soil.

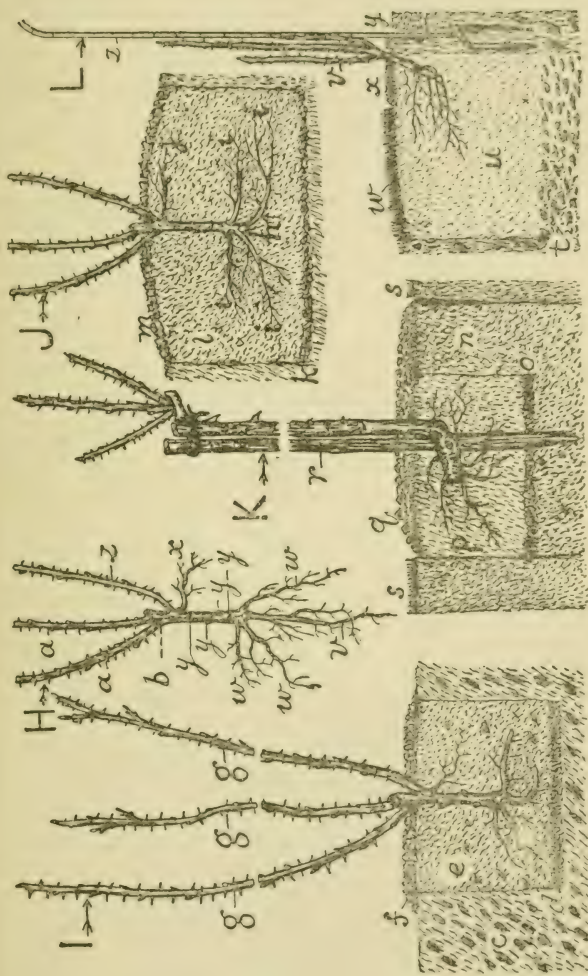
It frequently happens that a Rose tree has most of its roots on one side, instead of in a circle round the stem. Shape the hole to fit the roots.

The same root system will very likely be found to exist with arch and wall Roses. Here there is no trouble. The commonsense of the planter tells him to turn the side with the fewest roots to the support.

To summarise: Dig deep, plant shallow; spread the roots, close the soil; buy early, plant early, prune early; win prizes early and bank the money early; live long, and plant some Roses every year.

(References to Fig. 18, page 41.)

- H, a one year old Hybrid Perpetual from a cutting, the shoots of which have been shortened to about 12 inches: *v*, a strong root which has taken a straight down direction; *w*, roots which have taken a more or less horizontal direction; *x*, a root which issued from the base of a shoot; *y*, dormant buds which will ultimately start when the shoots above ground are close pruned; *z*, a shoot produced from a bud below the ground; *a*, shoots made from buds above the ground; *b*, depth at which the cutting was inserted.
- I, a one year old tree on its own roots, showing the roots shortened and spread out laterally, the descending roots having been bent from a vertical to a horizontal inclination without breaking: *c*, the soil trenched and manured; *d*, a layer of decayed manure covered with good soil; *e*, soil made quite firm under, amongst, and over the roots; *f*, a mulching of short manure; *g*, shoots shortened after planting to prevent displacement by wind.
- J, the tree planted with the roots intact: *h*, a straight down root carefully brought by a gentle bend to a horizontal direction; *i*, side roots spread out horizontally; *j*, a root from the base of a shoot spread out near the surface; *k*, soil; *l*, soil with which the hole is filled; *m*, a mulching of short manure.
- K, a standard properly planted in the centre of a 2 feet wide circle on a lawn: *n*, prepared soil; *o*, a thin layer of manure covered with a little fine soil; *p*, hole; *q*, mulching; *r*, the stake to which the stem is secured; *s*, grass. [N.B.—A pillar Rose is planted similarly.]
- L, planting against arch: *t*, subsoil broken up and manure added; *u*, ground trenched and manured in a half-circle not less than 2 feet 6 inches wide and 2 feet deep; *v*, a Rose with its roots spread out near the surface; *w*, turf replaced; *x*, opening left free from turf not less than 1 foot clear from the stem in a half-circle and mulched with short manure; *y*, gravel path; *z*, portion of arch.



PICTORIAL PRACTICE—PLAIN HINTS IN FEW WORDS.

FIG. 18.—PLANTING ROSES.—III.

(For references see page 40.)

Chapter 9.—How to Prune.

THE psychologist, who loves to bring his mental dissecting knife into play on human characteristics and emotions, would find a little material for his operations if he were to turn his attention to the study of Rose growers. Set him up with the elementary fact that men systematically over-prune, and women as consistently under-prune, and he would straightway reel off a dissertation on the primitive instincts of the sexes, which, highly learned though it might be, would teach us only what we know already namely that man is in his elements a savage, whereas woman is sweet, tender, and angelic.

On the face of things there is no apparent reason why the horticulturist should add another to his already long list of subjects of study; yet here we see that psychology has its value. In his ignorance of human instincts, the horticulturist, who is usually a mere child in worldly wisdom, has often puzzled his brains to account for the departure from his precise instructions which he has observed. The man whom he set out to teach has overdone it; the woman has underdone it.

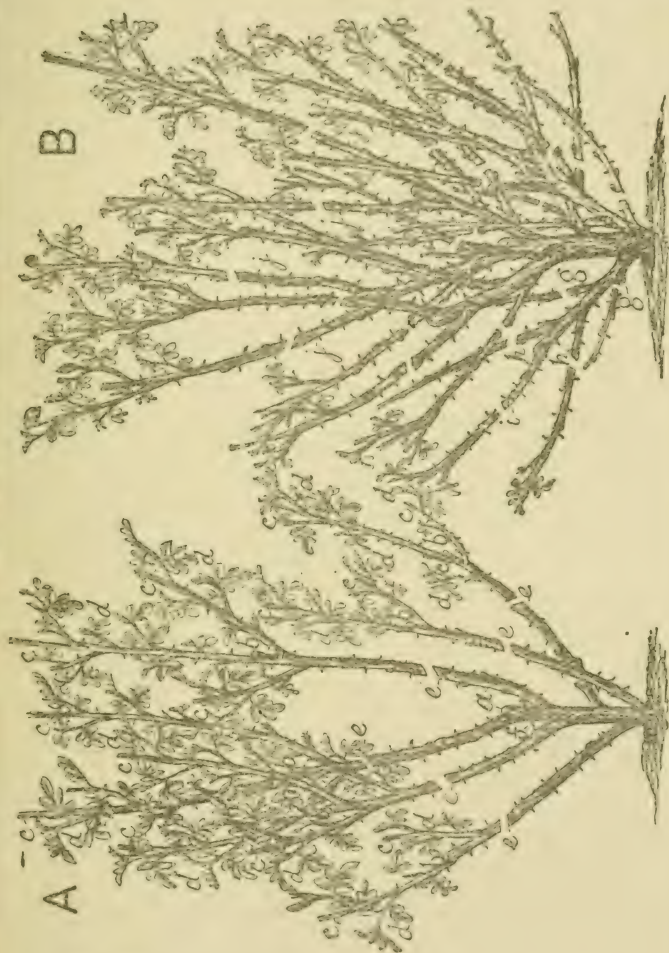
Now, having sucked the psychological orange dry, and satisfied ourselves that the reason why Rose growers so often go astray with their pruning is purely a matter of sexual impulses, it may be well to deal with the situation on such hard and fast lines of practical philosophy as are represented by the letters of the alphabet, the figures of the numerical system, and a foot rule.

I do not believe that Roses will ever be pruned properly on general principles. Principles are beautiful things, but they

(References to Fig. 19, page 43.)

- A, two years old tree: *a*, point of first pruning to five buds, resulting in five growths and a sixth from an underground bud; *b*, June flowering shoots; *c*, autumn flowering shoots; *d*, spring growths; *e*, points of spring pruning; *f*, leading growth to be shortened at discretion.
- B, three years old tree: *g*, very weak shoots shortened to one bud; *h*, weak shoots to two buds; *i*, fairly strong shoots to three buds; *j*, very strong shoots to four buds.

For further particulars see the chapter on Pruning.



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 19.—HOW TO PRUNE DWARF HYBRID PERPETUALS.

(For references, see foot of page 42, and the chapter on Pruning.)

will not in themselves prevent people from spoiling Rose bushes.

There are many thousands of Roses in this world that are not pruned half enough, and there are nearly as many that are pruned far too much. Roses go unpruned because Angelina "can't bear to cut the poor things about." They are overpruned because the man at the show told Edwin that the way to get good Roses was to prune 'em, and no half measures about it neither.

Feminine humanity joins with masculine in agreeing that finger-nails must be trimmed. True, aristocratic China leaves one nail untrimmed, but it really finds it very inconvenient. Roses must be cut. If the knife is never used upon the bushes they will be as troublesome as the unpruned nail of the Son of Heaven.

Do we get more or fewer flowers by pruning Roses? Fewer certainly, at one particular season. An uncut bush grows to a great size. If the soil in which it is growing suits it, the tree throws up a great many branches, and on these form a large number of shoots, some comparatively long, others mere twigs, but all, or nearly all, capable of producing flowers of a sort. Oh, yes! We will admit at once that non-pruning means a great many more flowers open at what we consider orthodox Rose time than pruning. But this conceded, we proceed to "get our own back" in two ways—(1) by claiming, which we can do with confidence, that the pruned bush gives better successional crops than the unpruned one; (2) the flowers are more intellectually satisfying, because they are larger, and have finer form, greater substance, and richer colour.

With the growth of Rose shows, the temptation to push hard pruning to its extreme limits in order to get a few flowers of abnormal size became too strong to be resisted. Rose bushes were pruned harder and harder: they gave larger and larger flowers: the hard pruner won more and more prizes, consequently he became regarded more and more as an authority: he wrote more and more articles and books. The whole order of events is perfectly natural, but it is not a bit less mischievous. To cut every Rose bush in the garden equally hard, regardless of its habit and relative degree of natural vigour, is on the same intellectual plane as cutting the hair of a charity school.

It may be argued by the Rose writer that to give individual instructions for dealing with every one of the hundreds of varieties grown in gardens would be an impossible task. I agree. With a tolerably long list in my own garden, and a long, long string in other gardens with which I have had to do, I am well able to appreciate the force of the argument. No writer can show, without an interminable array of illustrations, the exactly very best way of pruning every Rose grown.

He need not, however, on that account go and tell the beginner that the ideal pruning for every Rose is to cut it close to the ground line every spring. A large number of Roses which are grown in good soil throw out strong, sub-climbing shoots. It is barbarous to cut these to the ground every year. If slightly shortened and kept well apart, so that the side shoots which they throw have room to extend without crowding, they will give a succession of very fine flowers.

Pruning Dwarf Hybrid Perpetuals.

To point this plea for moderate pruning, and at the same time help the fair grower who, hitherto averse from pruning at all, is now driven reluctantly to ask for practical guidance in the hateful duty, it will be well to refer to an illustration which may help to teach the happy medium in pruning.

In Fig. 19 (p. 43) is an interesting study in Rose pruning on the "moderate" system. In *A* we have a two years old plant. As a maiden it was shortened at the point shown by the letter *a*, which will be found in the lower part of the open space in the centre of the bush. At the time of shortening there were five bold buds visible on the lower part of the stem, and each of these pushed a shoot, represented by the letter *e*. But there are six of these letters instead of only five. Where has shoot number 6 come from? It has sprung from a bud which, being just beneath the surface of the soil, was not observable at pruning time.

We shall come back to the letter *e* in order to see what the cuts mean. In the meantime, let us examine the letters *b*, *c*, and *d*. The first letter, *b*, indicates where the bush flowered for the first time in June, and the shoots which bore the flowers were lightly shortened. The second letter, *c*, shows where the bush flowered for the second time, perhaps in September or October. The third letter, *d*, indicates how shoots started in early spring from the growths which flowered in autumn.

Now it will be clear from this that we have to regard the bush as consisting of two parts—the part (upper growth), above *e*, which gave us leaves and flowers one year, and the part (lower stumps) below *e*, which we are going to make use of to give us the leaves and flowers of the next year. There is a dividing line in this bush, and that dividing line is the letter *e*. All above *e* has served its purpose; we now get rid of it, and rely on the stumps below *e* to give us a new bush.

We may pause for a moment to consider what would happen if we left this line of demarcation altogether out of account, and kept the bush with the shoots *b*, *c*, *d* intact. In other words, if we abandoned pruning altogether.

What would happen is this: In spring the shoots near the tips of the branches, *d*, which first made a move in February or early March, would grow rapidly. The shoots nearest of all to the top would be the strongest; others, however, would break lower down. We should, in short, get a great many young branches near the top of the bush; the lower part would be comparatively bare.

Now, here we are given pause at once. Firstly, our unpruned bush is obviously going to be a spreading bush, and it is going to be top-heavy. If we want our Roses to be sprawly, and of a water-on-the-brain aspect, well and good. If we do not, bad. Secondly, the flower-producing energies of our unpruned bush are going to be very much diffused. We stand to get a great many flowers, but they will be small, and they will be of no particular shape. If we want a great many flowers, and do not care what shape they are, well and good. If we want fewer fine flowers, bad.

It all amounts to this: We can, if we like, leave bush *A* just as it is, and have no dividing line *e* at all; but before we decide on that let us at least have the issue before us. We can have a healthy bush, but we cannot have a compact one. We can have a great many flowers, but we cannot have fine specimens of the particular varieties.

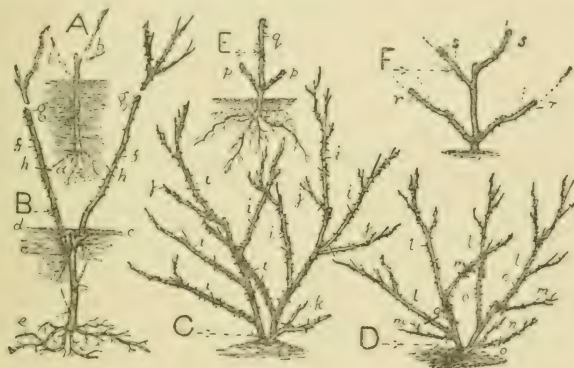
Those who are going in for the non-pruning system must now please step aside for a few moments until I have dealt with those who have set their hearts on compact bushes and fine flowers. To all such the dividing line, *e*, becomes something very important indeed. Unfortunately, while it looks clear enough on paper, with the wide gaps between the upper and the lower shoots, it is not so clear on the growing bushes; how shall we find it? We can get at it in this way: When growth begins in late winter on the upper part of the bush, an examination of the lower part will reveal little reddish swellings. These are buds. Counting from near the ground line upwards until we have come to six of them, we can say, "There, just above the sixth bud, is my letter *e*." Count the buds on each shoot in the same way, and the dividing line is arrived at.

We must not, however, put our pruning knife through at once. If we did a catastrophe might ensue. Those eager young shoots which are bursting near the top of the bush in February are taking the sap and keeping the lower buds—the really important buds—dormant. In March or early April comes a sharp frost, and those forward shoots get very sharply nipped. No matter. The buds are safe because they are not growing. If we had cut to *e* directly the tips, *d*, began to move, we should have concentrated the sap on the bottom buds and caused them to break into shoots, which of course would have had to bear the brunt of the "nip."

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 20.—PRUNING DWARF TEA-SCENTED ROSES.

- A, cutting of Hybrid Tea La France, with outline of first season's weakly growths: *a*, roots; *b*, shoots.
- B, plant (A), two years old: *a*, points where weakly shoots (A *b*) were pruned to one bud each in the previous spring; *d*, depth of planting, all the stem or cutting part being buried, partly to make sure of growths from the stem in case of severe frost cutting the top growths to the ground, and partly to ensure roots pushing from the base of the shoots as indicated by the dotted lines; *c*, main roots formation; *f*, vigorous shoots, *g*, points of long pruning for good growth and flowers; *h*, points of short pruning for fewer very fine flowers.



- C, plant (A), three years old, long pruned (B *g*): *i*, shoots from the main buds; *j*, growths from the side buds; *k*, a growth which has sprung from a buried bud. The bars indicate the points of pruning.
- D, an exactly similar plant to A, treated as B, but short pruned. (B *h*): *l*, growths from the main buds; *m*, growths from the side buds; *n*, growth from a bud below ground; *o*, points of pruning.
- E, one year old plant of La France Rose on the seedling Brier, pruned: *p*, side shoots shortened to two buds; *q*, leading growth cut to five buds, not counting the basal bud in either case.
- F, two years old plant (E) a year older, only one shoot being allowed on each side branch, and two shoots on the leading branch, showing the third pruning: *r*, side branch shoots cut to two buds; *s*, upper branch shoots to three buds. The dotted lines indicate growths from the buds on the respective shoots.

If, however, it is dangerous to prune hard in February or early March, it is safe to prune a little. We can remove a few inches of the tips of the branches, if we are getting alarmed at the extension of the shoots, without doing any harm. But early April is soon enough for cutting to *e*—that is, for doing the real pruning.

So far as figure *A* is concerned, it remains to make a brief allusion to *f*, which will be found on the left hand side, below *a*. Nothing very disastrous would take place if the grower ignored it altogether, but a rosarian with an eye to a perfectly formed and dwarf bush would cut out the strong shoot at *f*, and so leave the centre quite open.

It is necessary to give a few moments' attention to *B*, which may be taken as the result of pruning such a bush as *A* when another year has passed. A safe rule to follow in the third and succeeding years is to prune very weak shoots, mere twigs as thick as whipcord, to one bud; shoots $\frac{1}{2}$ inch thick to two buds; shoots $\frac{1}{4}$ inch thick to three buds; all shoots upwards of $\frac{1}{4}$ inch thick to four buds. In every case begin to count at the base of the shoot. Each little reddish protuberance is a bud.

The course of pruning here outlined is perhaps as near the happy medium as we can get. In a sense it is hard pruning. It concedes more to the show pruner than to the non-pruner. It cannot, perhaps, be applied with equally satisfactory results to every Rose in the garden; but there is this to be said in its favour—it is more likely, if generally applied, to give good all round results than any other system, whether of harder or lighter pruning, that might be chosen for general adoption.

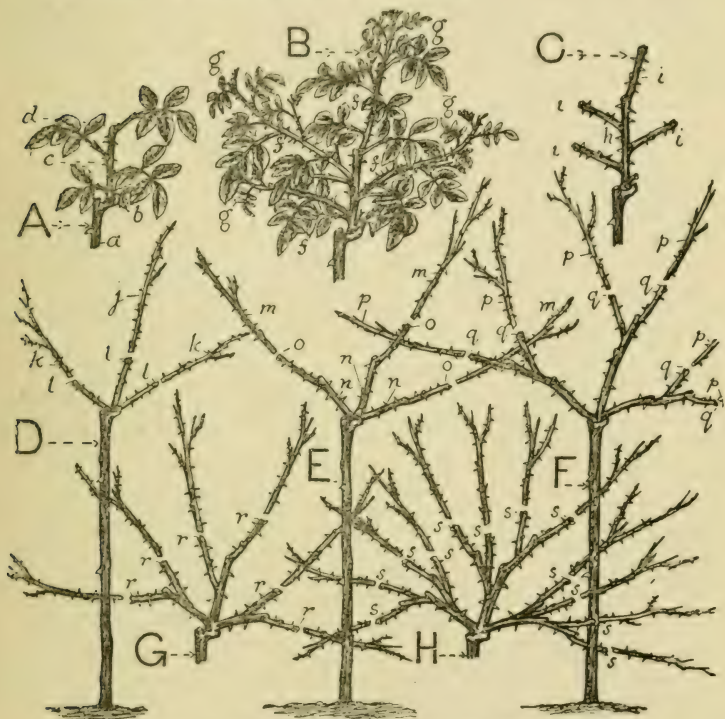
The comparative merits of hard and light pruning (with non-pruning we will have nothing whatever to do) are likely to provoke discussion until the end of time. As long as Rose shows are held people who are fond of Roses will go to them, and, seeing very large blooms there, will want to produce flowers just like them in the garden at home. It is not an

(References to Fig. 21, page 49.)

- A**, upper part of a standard in the first growth from the bud: *a*, stem, Brier or Dog Rose; *b*, point of cutting off the shoot in which the bud was inserted the previous summer about 1 inch beyond the bud during March; *c*, a vigorous shoot from the bud; *d*, point of pinching out the tip of the shoot as soon as it has made four leaves, not counting the small basal one
- B**: *f*, shoots which pushed as a result of pinching the shoot *A c* to four leaves; *g*, growths issuing after a second stopping.
- C**, one year old head after the spring pruning: *h*, the wood first made; *i*, the wood which formed as a result of stopping the shoot from the bud at the fourth leaf. These four shoots, shortened to two buds each, are certain to give eight flowering growths the following summer.

(References to Fig. 21, continued from page 48.)

- D, one year old standard: *j*, shoot from the central eye of the bud; *k*, growths from the side eyes of the bud; *l*, points of pruning, each shoot to two buds.
- E, two years old standard (D a year older): *m*, vigorous shoots that have produced fine blooms; *n*, points where shoots have been rubbed off while quite small; *o*, points of pruning to two buds.



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 21.—PRUNING STANDARD TEA-SCENTED ROSES.

- F, a three years old standard (E a year older): *p*, shoots that have produced good blooms; *q*, points of pruning to two buds; in the following summer two shoots are allowed to remain on each portion of the previous year's wood.
- G, head of two years old standard (D in previous year), pruned as there shown, each shoot to two buds: *r*, shoots shortened to two buds.
- H, three years old standard (G a year older); *s*, shoots pruned to two buds.

unworthy ambition. The Roses at the show represent the greatest possible development of the particular varieties, and people cannot be blamed if, seeing a high ideal, they resolve to work up to it. There is, however, reason to fear that this laudable resolution often leads to disappointment, and the amateur may well be warned not to expect too much. Under the merciless pruning which the great exhibitor practises many varieties would fail unless they had the best of well-chosen soil and the highest of skilled culture. Many amateurs cannot give the soil and culture of the great grower, consequently the hard pruning system is not for them.

Pruning Dwarf Teas.

Let us look a little farther into the details of pruning, this time in connection with Teas. Every year these lovely varieties—which, be it remarked, are far more “perpetual” than the so-called “Hybrid Perpetuals”—grow in favour. Teas are pruned hard by exhibitors, who want a few very fine blooms, but hard pruning is not the thing to give a long succession, extending over several months, of sweet, shapely, and beautiful blossoms.

Fig. 20 (p. 47) will help us in our search for the happy medium in pruning Teas and Hybrid Teas. It shows us (*A B C D*) a set of plants in different stages on their own roots, and (*E F*) a pair of plants at two different stages on the seedling Brier stock.

We have inserted a cutting (*A*) of *La France*, or some other Tea or Hybrid Tea, which in due course pushes roots (*a*) and branches (*b*). In a year's time we transplant it, pruning the weak shoots to a single bud (*c*), and plant it deeply enough to bury the whole of the cutting stem (*d*). Two strong branches spring up (*f*), which we prune in the spring of the following year. If we want a few very fine flowers we prune hard (*h*); if we want good growth and a long supply of nice blooms we prune lightly (*g*).

In either case the result of our pruning is to cause our plant to throw out side shoots. If we prune lightly we get a bush similar to *C*; if we prune hard we get a bush similar to *D*. *C* has more wood than *D*, and it will give more flowers, but the individual blossoms will not be quite so fine as those of *D*.

The exhibitor uses the seedling Brier a good deal for his Teas, and his mode of procedure is outlined in figures *E* and *F*, wherein are shown the shortening of the yearling and the subsequent pruning of the two years old tree.

The foregoing, and the references which accompany the figures, will perhaps serve to give even novices a good conception of the principles of pruning as applied to dwarf

Roses, and not only that, but a practical idea of actual work. For the rest, knife exercise must hold sway. To learn pruning as it should be learned, the grower must have a book in one hand and a knife in the other. The book should be clear, and the knife should be sharp. The writer of the book should express his views boldly, and the student should cut boldly.

To sum up, no pruning is bad; hard pruning is good chiefly for the exhibitor, moderate pruning is best for the large army of Rose growers who, like myself, grow a collection of Roses of various classes, and want blooms from them, not only of true character and presentable form, but in large numbers for cutting.

The varieties which naturally produce long, strong shoots must always be lightly pruned, because they produce their finest blooms from the uppermost buds; on the other hand, those sorts which naturally make short, twiggy wood may be closely pruned, because they produce their best blooms near the base.

In all cases the bushes must be kept open. In crowded bushes the wood remains soft and unripe. No matter what the system of pruning adopted, the wood must be plump and firm, otherwise the buds will be weak, and the shoots incapable of flowering well. It is particularly necessary to study this point with naturally coarse growers. The best plan with such is to thin out some of the shoots altogether, cutting them clean away from the base, like overcrowded Raspberry canes. Those left will then ripen, and with very little pruning will flower abundantly.

If Roses have been injured by frost, pruning time in spring may be a period of some little anxiety, and discrimination may be called for. The strong, ripened shoots which we should, in the ordinary way, have pruned little, we may have to cut hard, in fact we must keep cutting farther and farther down until we have removed every bit of brown pith, and come to the greenish grey healthy wood.

The latest growth made, *i.e.* the wood which develops towards autumn, is naturally the softest and most liable to injury. This, being near the extremities of the bush, goes first in pruning.

Pruning Standards.

The pruning of standards is conducted on much the same lines as that of dwarfs. As more people bud standards than bud dwarfs, it will be well to show, in Fig. 21 (p. 49), the stages by which a good flowering head is developed from the bud inserted in summer. The reader will recollect that in the chapter on propagation he was advised to insert his buds as close to the main stem of the Brier as he could get them. If he will now glance at *A B* and *C* he will learn the subsequent stages.

(Note that only the head of the tree is shown; the stem of the Brier is omitted to economise space). *a* is the stem, and *c* is the young Rose growing from the bud; *b* is the remainder of the Brier shoot on to which the Rose was budded the previous summer; it is common to shorten this to a few inches in spring, the stump being left to tie the young Rose to as it develops until it is strong enough to stand alone; afterwards the stump is cut quite away.

If the young Rose, *c*, were left to itself, it would extend freely, and very likely show a bud. Premature flowering is not desirable, consequently the shoot is stopped at the fourth large leaf. If the side shoots (*f*) which push as a result of this stopping are again stopped at the fourth leaf, more growths push (*g*) and a good head is quickly formed; in fact, this is about the quickest way of forming a good standard. The following spring's pruning removes the shoots (*g*) and shortens the shoots (*f*) to two buds each. Eight or nine splendid flowering shoots follow. The result of this spring pruning leaves the head as shown at *C*. It looks bald and bare, but it will soon be full and green.

The same point as to hard pruning to get fine blooms holds good with the standards as with the dwarfs. *D E* and *F* show a set of heads which are hard pruned on the big-blooms principle. By pruning the head, *E*, to two buds (*o*), and rubbing out one of the buds on each shoot (*n*) the energies of the tree are concentrated on a very limited amount of growth, and a few very fine blooms are produced. The following year (*F*) the pruning is to two buds (*q*) and both are allowed to push shoots. *G* differs from *E* in that all the buds are left, instead of some being picked out (*E*, *n*). As a result, *G* has more wood than *E*, and develops more rapidly, but does not give quite such fine flowers. *H* is a natural development of *G*. It shows the limit to which the grower with a desire for a good head and a fair proportion of good flowers may go. It is perfectly safe as it is—safe to ripen its wood and give good blooms; but as the years pass it will have a tendency to become crowded, and must be thinned to ensure thorough ripening and prevent overcrowding.

Pruning Climbers.—Maréchal Niel.

If dwarf Roses are not grown less than they used to be, climbers are certainly grown more. The introduction of Crimson Rambler had a very remarkable effect. It not only added to our gardens an exceedingly beautiful, distinct, and valuable Rose, but it led to increased attention being given to all classes of "climbing" Roses.

Climbers have grown in favour, and will continue to grow. In every establishment there will be a climbing Rose some-

where—on the house, on a fence, on an arch, on an arbour. And, naturally, people will want to know how to manage the plants in order to get plenty of healthy growth and abundance of flowers.

Maréchal Niel is not a recognised outdoor Rose. It is grown out of doors, to be sure, in a good many places, and in favoured spots often succeeds; but it cannot be relied upon to ripen its wood in damp localities, consequently it is liable to be badly cut by frost. In districts where a relatively dry atmosphere prevails, and in positions where the tree can be protected in hard weather, the Maréchal often lives for several years in the open air.

In the main Maréchal Niel is an indoor Rose, and as such we may consider it. Grown to cover the roof of a cool greenhouse or conservatory, or even for the wall of a vinery, it frequently does splendid service. It is even more successful when given a galvanised wire trellis and trained like a Peach, its long shoots stretching away 20 feet or more, all brownish green and ripe from exposure to sun and air. Thus grown, the Maréchal proves what sterling worth is in him, producing every spring scores, or even hundreds, of magnificent flowers.

Time was when Maréchal Niel as an indoor climber was pruned on the system which to this day finds favour with the majority of people for climbing Roses in general—the system of snippety-snip. This system consists in clipping little bits off here and little bits off there, with a rare—a very rare—interlude of thinning, in which a whole shoot is removed. Times have changed. Snippety-snip no longer rules the roost, for it has been found that the Maréchal thrives the best when hard pruned back every year. Although this plan of going to work has been proved to be far the best in general practice, it is very difficult to induce those who have never had experience of it to put it into operation. They shake a dubious head when advised to prune their Rose back close to the stock, obviously oppressed by the fear that the plant would never survive such barbarous treatment. I can only say, for the benefit of any such who may read these lines, that, although it has been my privilege to see the Maréchal under all conditions of culture, it is only under the cutting-back system that I have seen it in perfection. When pruned back to within a bud or two of the stock—which may mean cutting off 20 feet, and leaving only 2 inches of each shoot—immediately after flowering, new growth has broken at once, shoots have flown up with amazing rapidity, and in a few short weeks the space formerly occupied has been covered with fresh and healthy wood.

The finest examples that I have ever seen were grown on Peach trellises. They had been budded on to Brier stems about 2 feet high. They were usually in bloom by Easter, and

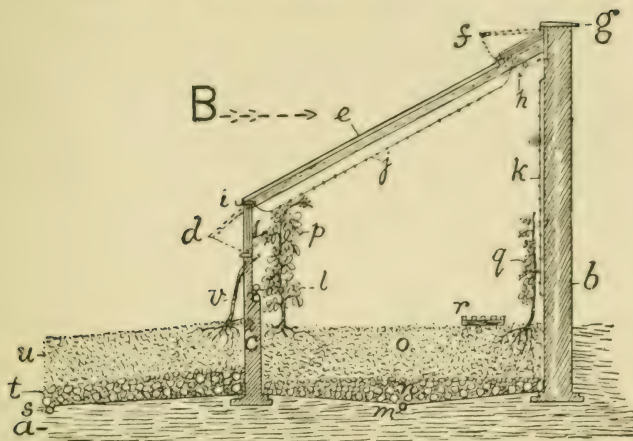
in most seasons Whitsun saw the last flower cut and sent to market. The plants were instantly pruned back, and in September the trellis was covered once more. The growths of the Rose were trained diagonally across the trellis like the ribs of a fan.

It is only in favourable circumstances that this system may be brought into play in the open air. There must be a forward spring, which ensures an early flowering, and enables the grower to get his cutting back done by the end of June or thereabouts; and there must be genial showers throughout the summer to help the plant to make its new growth before

(References to Figs. on page 55.)

FIGS. 22 and 23.—PLANTING MARÉCHAL NIEL.

- B, a** section of a lean-to house: *a*, subsoil; *b*, the back wall, preferably built hollow; *c*, the front wall; *d*, the front light, opening the whole length of the house by a crank and lever apparatus; *e*, the roof; *f*, the top light, opening the whole length of the house by a crank and lever apparatus; *g*, the wall coping; *h*, the opening apparatus; *i*, the spout; *j*, the trellis wires, 6 inches apart, with stays not less than 1 foot or more than 16 inches from the glass; wire No. 10 galvanised, given one coat of white lead paint after fixing; *k*, the back wall wires, 6 inches apart, and not more than 1 inch from the wall; *l*, 4-inch hot-water pipes (flow and return); *m*, a 4-inch tile drain, which must run the whole length of the house, and have a proper fall and outlet; *n*, drainage (rubble, half-brick size at the bottom, decreasing upwards, and finishing with a 2-inch layer of old mortar rubbish); *o*, the border (turfy loam of medium texture, 12 parts; fresh horse droppings, 1 part; bones, crushed, $\frac{1}{2}$ inch, $\frac{1}{4}$ part; mixed); *p*, a Maréchal Niel Rose properly planted, the roots being disentangled after being turned out of their pot, and spread out evenly in the border; *q*, a back wall plant, such as Safrano or Climbing Niphetos; *r*, a batten pathway, dressed when quite dry with three coats of Stockholm tar thinned to a paint-like consistency with paraffin oil, allowing to become dry between the coats. *Outside planting*: *s*, a 3-inch tile drain; *t*, the drainage; *u*, the border; *v*, the Rose introduced through an aperture made in the wall, allowing plenty of room for the stem to swell, the stem outside being wrapped with hay bands or hair felt, and the roots well protected during winter from severe frost.
- C, a** section of a span-roof house: *w*, the side walls; *x*, the side lights, opening the whole length of the house by a crank and lever apparatus; *y*, the roof; *z*, a cap ventilator the whole length of the house, worked by a crank, pinion, and lever appliance; *a*, the trellis; *b*, 4-inch hot-water pipes (flows); *c*, 4-inch hot-water pipes (returns); *d*, a 3-inch drain; *e*, the rubble for drainage; *f*, the border; *g*, 9-inch brick pillars, about 9 feet apart, for supporting the hot-water pipes; *h*, batten paths, formed of 2-inch bearers about 3 feet apart, with 1-inch battens, having about 1 inch space between them; *i*, young specimens of Maréchal Niel Rose properly planted; *j*, the position for Tea-scented Roses in pots, which should be placed outdoors in summer, or after the first blooms are cut and the young growths made.



Scale $\frac{1}{8}$ inch = 1 foot.

FIG. 22.—MARÉCHAL NIEL IN A LEAN-TO HOUSE.

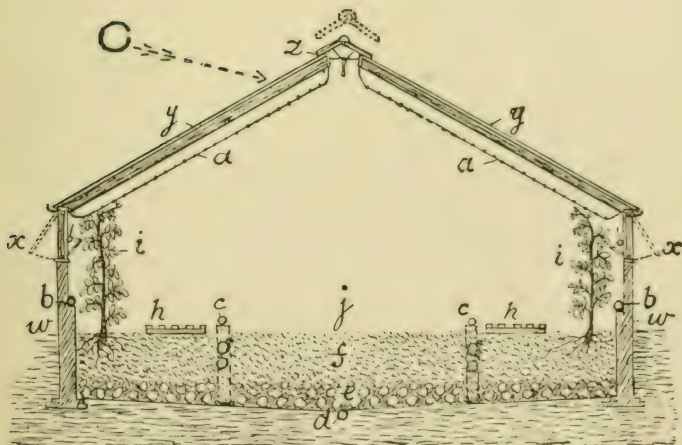
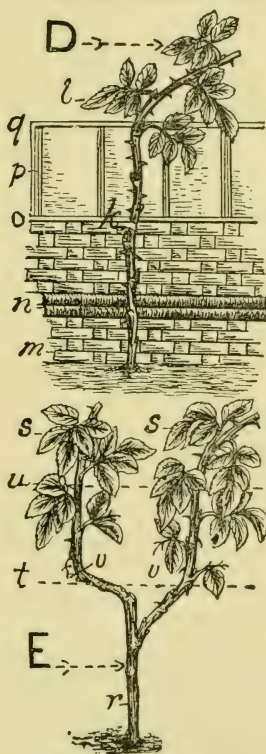


FIG. 23.—MARÉCHAL NIEL IN A SPAN-ROOF HOUSE.

(For references, see page 54.)

the cold weather comes. To complete the tale, there should be a sunny autumn to thoroughly ripen the wood. We do not get this happy association every year.

Fig. 22 (p. 55) shows how anyone who proposes to set apart a lean-to house mainly for Roses, to include the *Maréchal*, either to get blooms for market or for private pleasure, may proceed in his planting; and Fig. 23 shows how a span-roof house may be utilised to the best advantage. Plants turned out of pots may be planted at almost any period of the year. If planted in the autumn, when leafless, they may be shortened (see *D k*,



D, a one-stemmed plant at the first pruning: *k*, the point of shortening to induce vigorous growths to push in the following spring for forming the basal rods; *l*, the upper part of the plant, which in the previous season was allowed to make all the growth possible; *m*, the wall front of a lean-to, or the side of a span-roofed house; *n*, the hot water pipes; *o*, the wall plate; *p*, the light; *q*, the eave of the house.

E, a plant in the second year after planting: *r*, the stem, from which all the growths have been removed except the two most promising; *s*, vigorous shoots which are allowed to make all the growth possible during the summer, training them to the right and left of the stem (as shown) so as to have them 2 feet apart when taken upright; *t*, the point of the wall plate; *u*, the position of the eave; *v*, the point of shortening the growths at the winter pruning.

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 24.—FIRST STAGES OF PRUNING MARÉCHAL NIEL.

Fig. 24), and will then throw up vigorous shoots, as shown in *E*. The third season's pruning, by which canes are produced for covering the trellis, is shown at *F*, Fig. 25 (p. 59), and the stumps to which the trees are reduced when the cutting back has taken place are represented at *G*, *g*.

Pruning Climbers.—William Allen Richardson.

This favourite Rose, which is only a few degrees less popular than *Maréchal Niel*, succeeds on the cutting back system remarkably well when grown in rich soil. With a tolerably dry atmosphere, and in very good ground, I have known it thrive for years in the open air under that system of pruning; but it was always cut badly by hard winters, and in very severe weather was cut to the ground. In a sense, Nature did the work of the knife, but she did it in winter, and, although the plant invariably broke up again from the base, there was not time for the new wood to ripen up to flowering point in the current year.

While, however, William Allen Richardson frequently gives good results when long pruned like *Maréchal Niel*, it also gives admirable results on a system more calculated to command the confidence of timid pruners. The main principle is to secure long main branches by cutting a young plant well back, and on these long shoots to get shorter ones, which bloom, and are cut back to firm wood below the points of flowering after the crop is gathered.

The details of this principle are explained in Fig. 26 (p. 60) and the references thereto. It is open to the grower to make a start with a very young plant, such as that represented at *A*, and by judicious shortening to carry it through the successive stages *B* and *C* to *D*, which represents a developed plant in full flowering condition. The plant may be hard pruned (*B*, *d*) if there is plenty of side space and a spreading tree is wanted, or lightly shortened if side space is scarce and the tree is desired to make the most of its growth upward.

When the tree is in flowering condition, it may be maintained so for many years, other things being right, by shortening the flowered shoots to five or six joints, or to ripened wood as previously indicated, cutting out entirely, however, all weak, soft, and unripe shoots. The tree will not long remain floriferous if the main branches are trained very close together, or if it is allowed to become crowded with side shoots. With sufficient space between the growths for the leaves to have full exposure the wood will become ripe, and the tree will bloom freely.

Pruning Climbers.—Gloire de Dijon.

Gloire de Dijon remains, and is likely to remain, one of the most popular of garden Roses. It is not often seen at shows,

because its flowers are imperfect from the exhibition standard. In this connection it may be well to mention that the system of pruning which is adopted has its influence. Gloire de Dijon is amenable to more than one mode of pruning. Broadly speaking, the long-rod system is the best where there is plenty of space, as giving the most flowers; but spur pruning may be resorted to with advantage where space is limited, and it will probably give the finest individual blooms.

A and *D*, Fig. 27 (p. 63), exemplify spur pruning. *D* shows a branch as it might be seen in spring trained to a wall, with its side shoots; *A* represents an individual side growth from such a branch. The result of shortening the side shoots in *D* to the black cross bars is to remove the greater portion of the lateral growth, and leave only short stumps of a few buds each, from which flowering shoots will break for another year's bloom.

It can hardly be said that this is the general way of treating Gloire de Dijon, because it is rare for the plants to be cut at all. The majority of people leave their plants altogether unpruned from year to year. It is probable, however, that of the cases in which pruning is practised the majority favour this system or its modification. *B*. When the main stem of a spur pruned tree gets very old or unhealthy, it may be cut right back to a dormant bud near the base in order to secure an entirely new break.

In *E* and *F* we see, in somewhat different degrees, the long-pruning system. The one is adapted for the open, pegging down the branches as shown at *g*, the other for a wall. The constant succession of young wood maintained by cutting out flowered branches, and taking up young ones which have started from buds near the base, undoubtedly tends to free flowering.

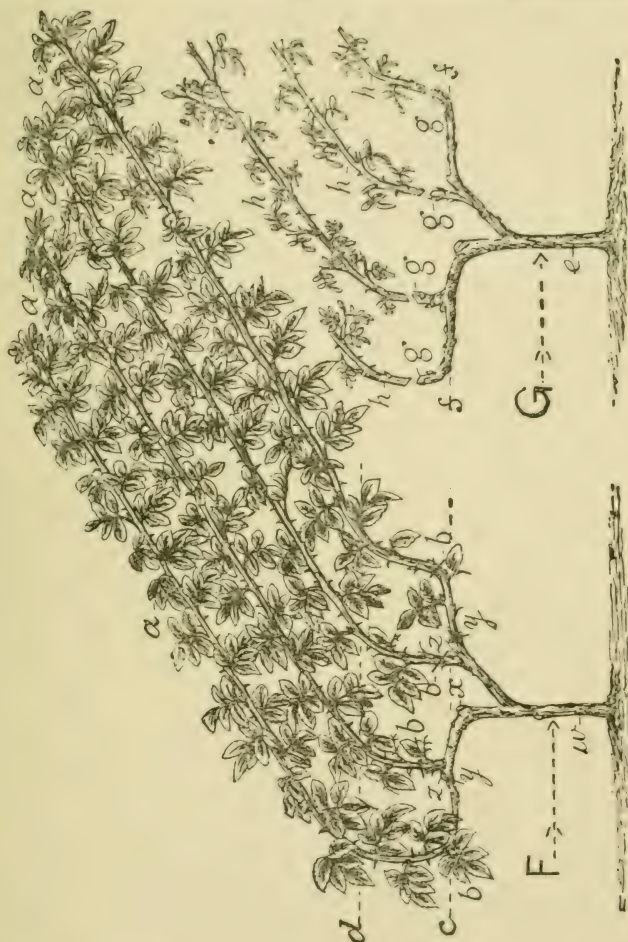
Pruning Pillar Roses.

The pillar Rose is an important feature in modern Rose gardens. Not only is it a beautiful object in itself, but it

(References to Fig. 25, p. 59.)

F, a plant in its third season's growth: *w*, the stem; *x*, the point of the heading or first pruning; *y*, side branches from which long rods are originated for producing growths one year and flowering the next; *z*, the point of the second year's pruning, to originate two vigorous shoots from each basal branch; *a*, strong growths trained to the roof trellis, 2 feet apart (shown closer on account of the depression from the upright to the diagonal position in the drawing), and allowed to reach to the full extent of the trellis or longer, the laterals being pinched to one leaf as made; *b*, the points of cutting away the rods after they have flowered in the following season; *c*, the wall plate; *d*, the eave.

G, a cut-back plant after flowering: *e*, the stem; *f*, the basal branches; *g*, stumps left after the branches are cut back to about two buds; *h*, branches which have flowered and are cut away.



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

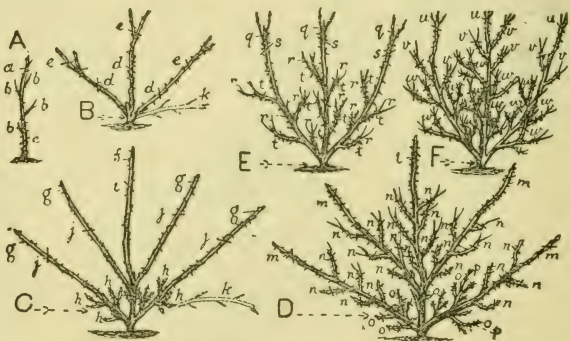
FIG. 25.—PRUNING MARÉCHAL NIEL ON THE LONG-ROD SYSTEM.

(For references, see page 58.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 26.—PRUNING WILLIAM ALLEN RICHARDSON FOR WALL OR TRELLIS.

- A, a one year old plant : *a*, leading growth ; *b*, side growths ; *c*, point of shortening to originate vigorous shoots from the base.
- B, a two years old plant with three strong shoots : *d*, points of shortening the shoots to induce vigorous growths for covering the wall or trellis, if there is plenty of space all ways ; *e*, points of shortening the shoots for forming an erect growing plant if there is more space upwards than sidewise.
- C, a plant which has resulted from shortening the vigorous shoots B to *d* : *f*, leading growth ; *g*, side shoots ; *h*, growths not allowed to extend beyond five or six joints, unless they are flowering shoots, they being pinched and laterals stopped to one or two joints ; *i*, point of shortening the leading growth ; *j*, points



of shortening the side shoots, only the immature points in both cases being removed ; *k*, branch bent down to cause the buds on young wood to break evenly, applicable to all young shoots.

- D, plant C a year older : *l*, continuation growth from stem ; *m*, continuation growths of side branches ; *n*, side shoots from previous year's shoots which flowered, or were not allowed to extend beyond five or six joints ; *o*, two years old side growths, called spurs. Pruning is confined to shortening the leading shoot of the stem and the continuation growths of the side branches to firm, thoroughly ripened wood, indicated by the cross lines ; *p*, growths that may be allowed to extend for filling bare space.
- E, an upright trained plant (B e a year older) : *q*, continuation growths ; *r*, side shoots ; *s*, points of shortening the leading growths ; *t*, points of pruning the side shoots.
- F, an upright trained plant (E a year older) : *u*, continuation shoots from branches ; *v*, one year old side shoots ; *w*, two years old side branches or spurs ; the pruning being indicated by cross lines.

serves to prevent the sense of uniformity which would prevail were there nothing but beds.

The pillar may stand alone, or it may form one of several in a bed. It is in the latter circumstances that it does its best work. The beds of pillars in many of our large private Rose gardens, and also at Kew, are objects of great beauty.

To have a pillar Rose in its fullest beauty it must be clothed from head to base. Pillars are frequently seen, however, of which the upper part only is well furnished. This is a result, in many instances, of leaving the plant unshortened in the season of planting. In all cases where young plants are put in it is advisable to shorten them in spring, so as to ensure strong shoots from the base, which are certain to come if the roots are healthy and the soil is good.

In the case of strong flowering plants three or four years old, well furnished with canes, such hard cutting back need not be practised, but the canes should be bent over when the buds begin to swell in spring, and only trained upright and secured to their supports when the lower buds have broken strongly.

In any case of doubt as to shortening, whether in the first or subsequent years, the character of the growth may be studied. If the shoots are long, as thick as the little finger, or nearly so, firm, and brown or greenish brown in colour, they may be retained the greater part of their length. As a rule the tips are soft and unripe; these may be removed. If the shoots are little thicker than a straw, green and soft, they should be cut hard back.

It is a help in the task of keeping the pillar well clothed from bottom to top if some of the ripe, strong shoots are shortened back or bent over when starting, in order to secure a good break of flowering wood near the base.

In order to maintain pillars in beauty from year to year over a long series of years, it is advisable to periodically shorten a few of the stronger growths to buds near the ground in order to originate fresh wood.

Pruning Roses for Pegging Down.

The pegged-down Rose plays its part in the garden, and it is often observable that in proportion to the space it occupies this type of plant gives an exceptional quantity of bloom. The reason is that the natural energies of the plant are allowed greater vent than in the case of the hard-pruned dwarf. As a matter of fact, there are many varieties of Roses grown systematically as dwarfs, and pruned somewhat severely in order to keep them within bounds, which from their naturally vigorous habit are better adapted for being pegged down.

The principle of pruning the pegged down Rose is to lightly shorten the strong shoots in spring, and when they have

bloomed to remove them in order to make way for successional shoots which have broken up from the base. It is Raspberry pruning all over again.

Roses with short, twiggy shoots, whatever their section, are unsuitable for culture as pegged-down Roses. On the other hand, almost any class of Rose that has long, strong shoots may be pressed into service. The observant grower can frequently pick suitable plants for the purpose, whether Hybrid Perpetuals, Teas, or Noisettes, from his own beds.

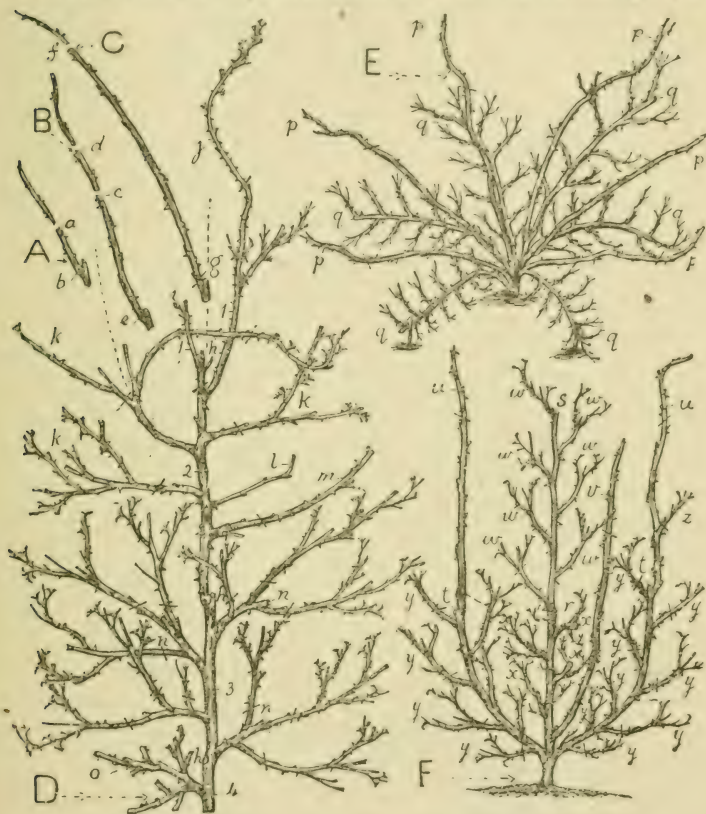
Pegging down has the effect hinted at in advising the bending over of the strong shoots of pillar Roses, and also in bending down the rods of Grape Vines, namely ensuring a good

(References to Fig. 27, page 63.)

- A**, short or spur pruning : *a*, shoot shortened to three buds, not counting the basal bud, or the small ones at the side of the shoot where it issues from the previous year's wood ; *b*, basal bud—there is usually a corresponding one opposite.
- B**, intermediate pruning, the shoot being almost twice as long as in short pruning : *c*, point of shortening to 8 inches ; *d*, point of shortening to 10 inches ; *e*, basal bud.
- C**, long pruning, the shoot left as long as there is space for developing side or bloom growths. All the thoroughly ripened wood is retained, only the immature portion being cut off : *f*, point of shortening, the part left for blooming being in this instance 15 inches, or nearly twice as long as in intermediate pruning, and five times longer than in the short pruning ; *g*, point of shortening to basal buds.
- D**, a branch spur pruned : *h*, points of shortening the stem, the numerals signifying the age of the wood in years ; *i*, terminal growth, very weak, to be cut off at the cross line ; *j*, uppermost side growth which has flowered and pushed a continuation shoot. This, shortened to a bud on firm, ripe wood and the flowered growths cut off close (both indicated by cross bars) is suitable for training as a continuation of the stem, as indicated by the dotted line ; *k*, vigorous side growths from one year old wood which flowered well at both the first and second blooming—the bars indicate the points of pruning. The uppermost left hand branch in this connection has made a strong second growth shoot, which may be pruned as indicated by the dotted cross lines, and trained in as a leader where growths are desired ; *l*, stunted, weak growth, simply a flower shoot cut off close to the stem ; *m*, a vigorous shoot which started in consequence of the first flowered growth having been cut off to within a bud of the stem—the pruning is indicated by the cross lines ; *n*, two years old spurs, the shoots of which have bloomed well—the bars indicate the points of pruning ; *o*, three years old spur properly pruned.
- E**, bush of Gloire de Dijon on the long-branch, once-flowered system of pruning : *p*, one year old, long, vigorous shoots with merely their immature points shortened back to thoroughly ripened wood ; *q*, two years old branches that have produced an abundance of fine blooms, and are cut clean out at the following winter pruning.
- F**, tree of Gloire de Dijon on the long-pruning and flowered-branch-cut-out system : *r*, point of first shortening a strong, well matured shoot ; *s*, point of shortening a vigorous growth which was taken forward in the previous

(References continued from page 62.)

year as a continuation of the branch; *l*, point of shortening strong shoots which were allowed to grow from the base of the stem in the previous season; *u*, continuation growths or one year old shoots taken forward from the respective branches, marked for shortening; *r*, a



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 27.—PRUNING GLOIRE DE DIJON.

vigorous growth which was allowed to proceed from the base of a flowered three years old branch and intended to displace it in the following summer, marked for shortening; *w*, one year old or last-year-flowered shoots; *x*, two years old growths or spurs; *y*, one year old flowered shoots spur pruned; *z*, laterals, to be cut off close to the shoot.

break along the whole length of the cane. Plenty of Roses of strong habit which, hard pruned, give stems and leaves instead of flowers, may be made to bloom abundantly by treating them on the pegging-down system.

Pruning Weeping Roses.

If not of the first importance in Rose gardens, weeping Roses have their value. When well furnished with healthy flowering wood they are objects of considerable interest and beauty.

Not every variety lends itself to manipulation as a weeping Rose. It would be useless to endeavour to make a weeper of a sort which naturally produces weak, stubby growths, and the attempt would only end in the grower becoming a weeper himself. Those varieties are the most suitable which produce long, pendent shoots.

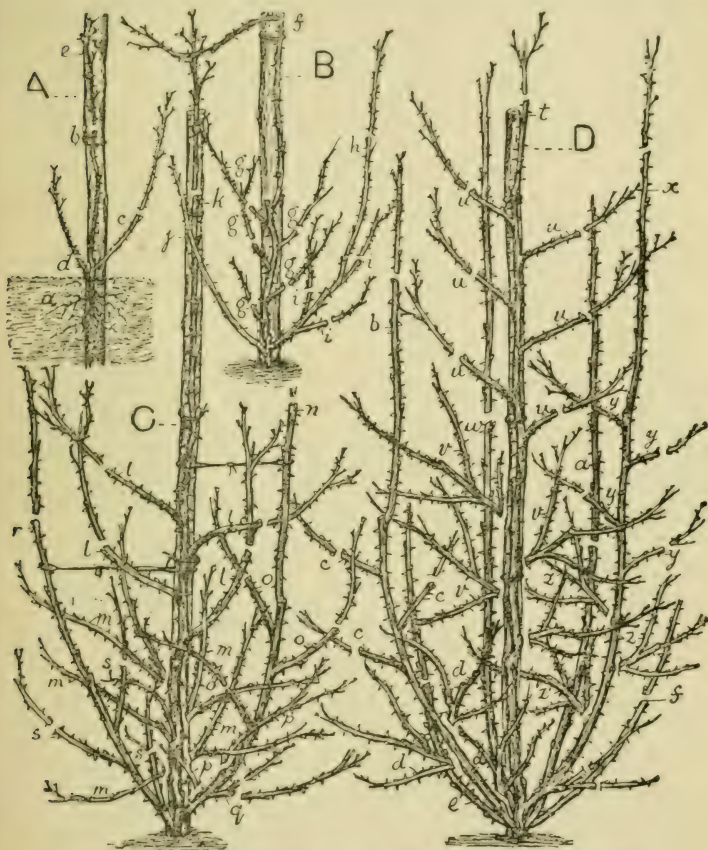
It is wise to make a commencement with young trees established on standard Briers. By shortening the leading growth

(References to Fig. 28, page 65.)

- A, one year old plant of Reine Olga de Wurtemberg from a cutting: *a*, free root formation; *b*, leading growth shortened to about 15 inches; *c*, vigorous side growth cut back to about 9 inches; *d*, weakly side shoot shortened to two buds; *e*, portion of pole forming the support.
- B, two years old pillar Rose (A a year older): *f*, leading growth shortened to about 2 feet and secured to the pole; *g*, side shoots from the stem cut back to two or three good buds each; *h*, continuation growth of a vigorous side branch shortened to about 18 inches; *i*, side shoots from a side branch cut in to two or three buds; *j*, vigorous shoot from the base as a result of close pruning, shortened to about 18 inches.
- C, three years old pillar Rose: *k*, strong continuation growth from the leading branch shortened to thoroughly ripened wood and about 9 inches from the top of the pole, which is 7 feet 6 inches above ground; *l*, one year old side shoots cut back to about four good buds; *m*, one year old spurs cut clean out; *n*, leading growth from a side branch shortened to well matured wood; *o*, one year old side shoots on a side branch cut back to about four buds; *p*, one year old spurs on a side branch cut clean out; *q*, spur growth cut close in [NOTE.—It is always advisable to retain some buds at the base of a branch]; *r*, leading growth of a side branch duly shortened; *s*, side shoots shortened to about four good buds.
- D, four years old pillar Rose. Central branch (*Ab*) which has reached the limit of height: *t*, the leading growth shortened to the top of the pole; *u*, side shoots cut back to four buds; *v*, spurs cut clean away; *w*, a vigorous young shoot from the collar of the plant or base of the central branch, and intended to supplant the latter in a year's time, the central branch then being cut away in its favour. Side branch (*Ac*): *x*, continuation growth shortened to firm wood a little below the height limit; *y*, one year old side shoots shortened to three or four buds; *z*, one year old spurs cut clean out; *a*, young shoot from the base of the plant, and intended to take the place of a side branch in a year or two's time. Side branch (*Ad*): *b*, continuation growth shortened to well ripened

(References continued from page 64.)

wood; *e*, side shoots shortened to three or four buds; *d*, one year old spurs cut clean away; *e*, a young shoot from the base of the plant intended to advance year by year and then take the place of the branch,



PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

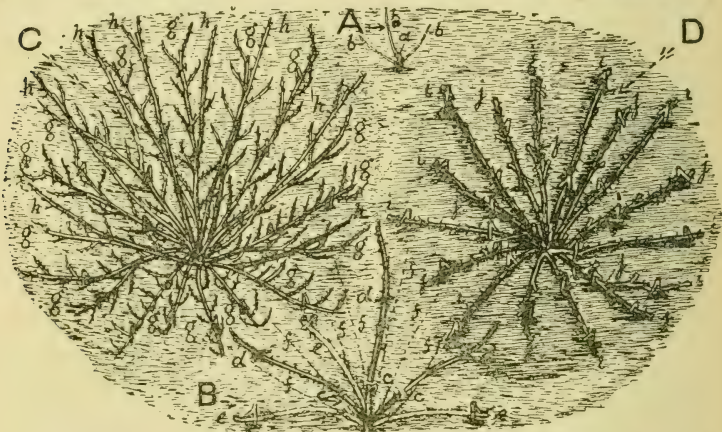
FIG. 28.—PRUNING PILLAR ROSES.

this being then cut clean out at the base. Young growth: *f*, a shoot which has sprung from the collar of the plant, to be held in reserve for originating a vigorous shoot to take the place of a worn-out branch.

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 29. —PEGGED-DOWN ROSES.—I. BRANCHES LEFT LONG.

- A, one year old plant of a vigorous growing Rose cut down close to the ground, or to within three buds of the junction of stock and scion: *a*, point of shortening the maiden (the first growth from the Rose bud) in the spring after planting; *b*, vigorous shoots developing from the buds, all others (unless very strong) being rubbed off.
- B, two years old plant of a vigorous growing Rose, showing the difference between pruning for a dwarf and a pegged-down plant: *c*, points of pruning for a dwarf plant; *d*, points of shortening for pegging down, only the unripe points of the growths being removed; *e*, pruned shoots pegged down, thus causing the buds to break evenly along their whole length; *f*, strong shoots issuing from the base of the branches, and which, allowed to



grow in the desired number, form the growths for pegging down in the following season, the other branches that have flowered being cut away in their favour in the autumn after blooming.

- C, a developed pegged-down Rose showing the flowered and successional growths: *g*, flowered branches (pegged-down shoots of the preceding year's growth); *h*, young successional shoots for pegging down to take the place of the flowered branches when the latter are cut away to the base. [NOTE.—Some of the most promising of the older branches may be retained, especially those with young, strong wood, for covering the space evenly.]
- D, a pruned, established, pegged-down Rose: *i*, one year old shoots shortened and pegged down; *j*, two years old branches spur pruned and retained for furnishing the space evenly with foliage and bloom when there is not a sufficiency of young shoots.

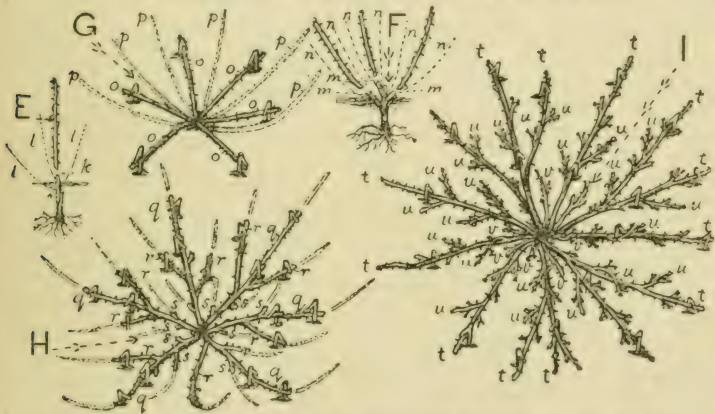
a few vigorous shoots are originated, and these, developing strongly, will bloom freely the following summer without further pruning save to remove the soft, unripe tips. If pruned back to basal buds, strong successional shoots will be produced, and these may be tied down as indicated by the dotted lines (Fig. 31, p. 69).

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 30.—PEGGED-DOWN ROSES.—II. LONG PRUNING.

E maiden, planted and cut down: *k*, point of shortening to the ground in the spring after planting; *l*, vigorous growths developing in summer.

F, two years old plant which has not produced strong and long shoots for pegging down in the first season: *m*, points of cutting close in so as to induce vigorous shoots to push in the following summer; *n*, shoots developing as a result of cutting back to two buds.



G, three years old plant (F a year older) with shoots pegged down and young growths developing from their base: *o*, strong and long shoots of the previous year shortened and pegged down; *p*, vigorous growths issuing from their base.

H, a pegged-down, long-pruned Rose showing that the object is to cover the space evenly with vigorous flowering growths: *q*, continuation shoots; *r*, growths left long for filling up space; *s*, shoots spur pruned because space does not permit of long pruning being adopted in their case.

I, a fully formed, long-pruned, pegged-down Rose after pruning: *t*, main branches; *u*, subsidiary branches left at the previous pruning to fill up the space; *v*, basal growths always reserved so that a worn-out branch can be cut clean out and replaced by a young, vigorous shoot.

When the head has been formed the pruner will have a simple task. His object will be to keep the tree well furnished with young, ripe wood, and to this end he should remove all growths which are old and weak, or soft, or which tend to cause crowding. With a limited number of branches, thinly disposed, and only pruned to the extent of removing unripe tips or thick side growth, there is no fear of a lack of flowers.

It must be remembered, however, that when the head is once formed wholesale cutting back will be fatal to free flowering.

Pruning Penzance Briers.

No modern Rose garden is complete without its Penzance Briers. Beautiful in blossom, attractive later in the season owing to their brightly coloured hips, graceful in growth, sweet-leaved, the lovely race of garden Roses evolved by Lord Penzance from the common Sweet Brier, *Rosa rubiginosa*, is one that must grow in favour as the years roll on.

The common advice to avoid pruning Penzance Briers is based on a sound principle. Assuredly these lovely Roses must not be pruned as dwarf and standard Roses for exhibition are pruned—that is, cut to within a few eyes of the soil. Such procedure could have but one result—the production of gross, unripe, flowerless wood.

Nevertheless, it can hardly be maintained that it is advisable to leave plants absolutely untouched with the knife year after year. Such a line of action—or rather inaction—would result in a thicket of growth, much of which, being weak and immature on the one hand or old and worn out on the other, would produce few and poor flowers.

To secure pyramids of bloom—tall columns clothed from top to bottom with flowers—a modified long-rod system of pruning is the best. Any reader who has a bed of Penzance Briers in full bloom in his garden (and I, as I write, am in that happy position) will observe that flowers are borne not only

(References to Fig. 31, page 69.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS

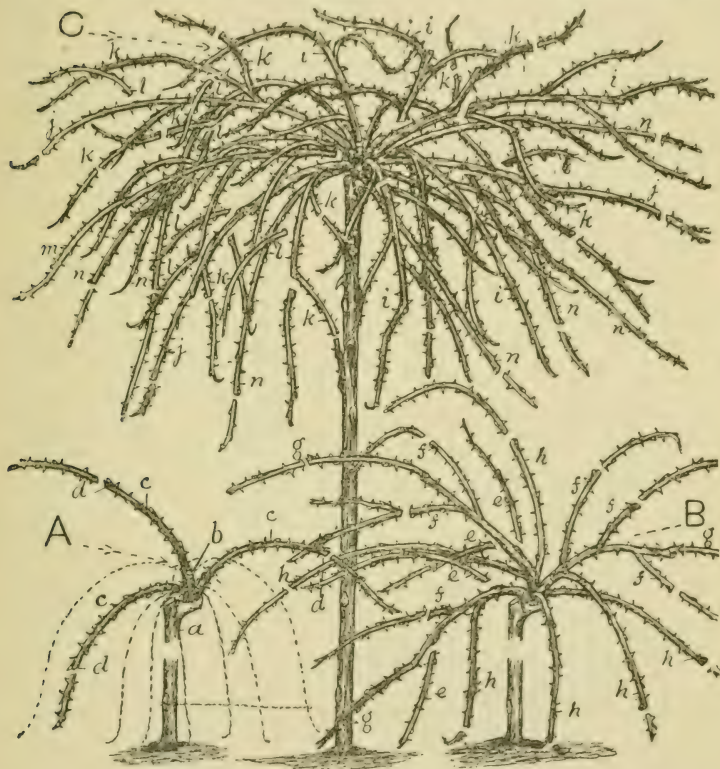
FIG. 31.—PRUNING WEEPING ROSES.

A, one year old head of Noisette Rose Aimée Vibert on the Brier stock; *a*, stem of stock; *b*, main growth from the bud, cut back at the first pruning to three buds; *c*, vigorous shoots produced as a result of the heading; *d*, points of shortening to secure bloom the following summer, and also vigorous growths for increasing the head. The dotted cross lines near the head of the stock indicate the points of pruning when it is desired to originate long shoots for flowering the following year. They should be bent down as indicated by the dotted drooping lines, only the unripe points being removed. After flowering on short growths their

(References continued from page 68.)

whole length, they should be cut hard back to young growths springing from their base. This long branch system is well suited to the vigorous growing varieties of Roses.

B, a two years old head (Ad a year older) : *c*, shoots cut clean out, because there is not room for the proper display of their growths, flowering or otherwise, in the following summer; *f*, side shoots shortened; *g*,



extremity growths of branches merely shortened to ripe wood; *h*, vigorous basal growths with their unripe points cut off.

C, a three years head on a 6-feet stem : *i*, branches cut clean out or shortened; *j*, leading growths shortened; *k*, side shoots on branches shortened; *l*, side shoots cut clean out; *m*, a two years old, long-flowered branch cut away to its base; *n*, long shoots from the base of the head retained the full length of their ripened wood.

on side shoots from the main canes, but on short basal growths. At the same time he will notice strong young shoots springing up from the rootstock, and others from the lower part of the older canes.

Now, to leave the plants unpruned altogether would be to get a tangle of growths, some old and exhausted from flowering, others weak from overcrowding. By a judicious removal of old flowered wood, and training up of new canes to become plump and well ripened by exposure to sun and air, this tangle is avoided, and a succession of vigorous, healthy, floriferous wood is maintained.

The knife may further be advantageously used to shorten strong flowering canes which are not fully ripened their entire length. Such canes need not be cut hard, but the soft upper portion may be removed.

As regards the side branches which have flowered and subsequently borne clusters of hips, they may be shortened to a couple of buds.

Planting and Pruning Rose Hedges.

The Penzance Briers may be used for forming hedges, but the common Sweet Brier is more commonly used for this purpose. It is, of course, much cheaper than the Penzance Briers, and if less beautiful in blossom is not inferior in fragrance. Briers make splendid division hedges from 4 to 6 feet high for gardens. For lower hedges the Scotch Rose, *Rosa spinosissima*, may be used.

Young Briers should be shortened and planted 1 foot apart in a trench, unless the ground is very heavy and wet. In this case the land should be drained, and hole planting resorted to. If the leading shoots are shortened, and the coarse side shoots trimmed in, a symmetrical hedge is easily secured.

Pruning Banksian Roses.

The Banksian Roses are little pruned. Hard cutting means wood, but not bloom. What is required is a good supply of long, strong, well ripened shoots, therefore systematic cutting
(Continued on page 74.)

(References to Fig 32, page 71.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

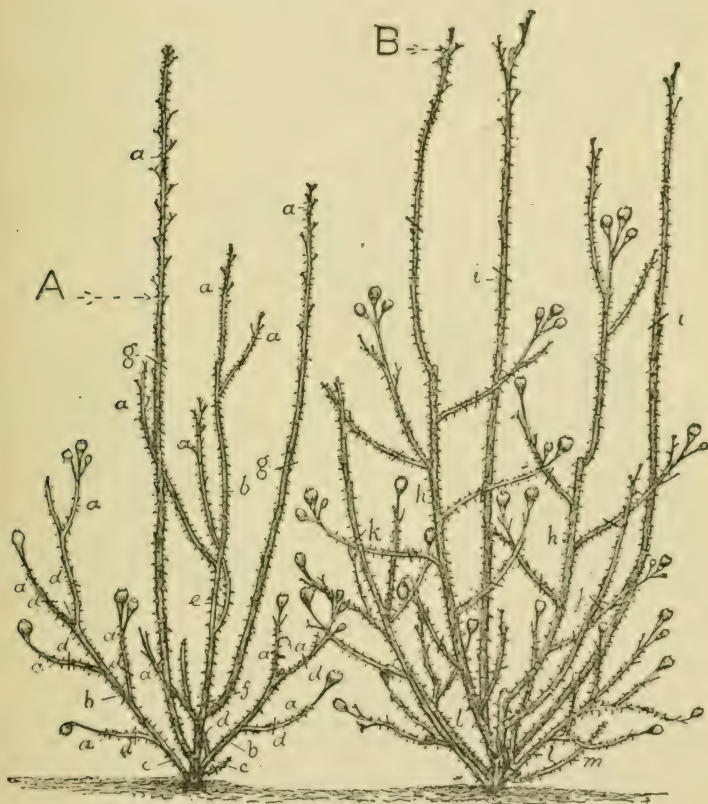
FIG. 32.—PRUNING PENZANCE BRIERS.

A. two years old plant of Penzance Brier Anne of Geierstein : *a*, one year old growths ; *b*, two years old wood, this being the growth which the plant had when planted, and which was not pruned the first season ; *c*, side branches ; *d*, shoots on side branches spurred or shortened to two buds ; *e*, central branch, to be cut out at the cross bar near *f* because the shoots above are lank and likely to interfere with the symmetry of

(References continued from page 70.)

the head, and also to concentrate vigour on the parts retained; *g*, strong shoots long pruned or shortened to firm, thoroughly ripened wood.

B, three years old Penzance Brier Anne of Geierstein (A a year older): *h*, two years old branches with side shoots spurred or shortened to two

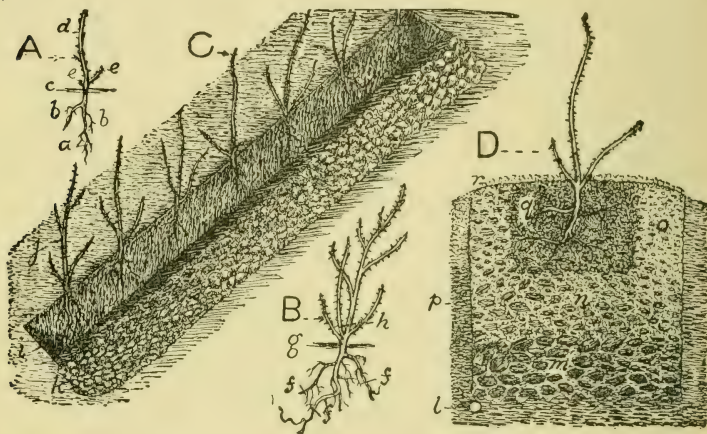


buds, and leading growths cut back to sound ripe wood; *i*, vigorous shoots from the base of the stem shortened to two-thirds of their length or to ripe wood; *j*, a moderately strong shoot from the stem pruned to six buds from its base; *k*, a shoot from the stem below ground shortened by one-third of its length; *l*, three years old branches cut clean away to their junction with the stem, or to a young shoot there situate, as *m*.

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 33.—PLANTING AND PRUNING ROSE HEDGES.—I.

- A, a year old or seedling Sweet Brier, *Rosa rubiginosa* : *a*, tap root ; *b*, side roots ; *c*, collar ; *d*, leading shoot ; *e*, side shoots.
- B, a two years old Sweet Brier : *f*, points of shortening the roots which are damaged in lifting ; *g*, depth of planting ; *h*, point of cutting off the top when it is starting into growth in spring, in order to encourage growths from the collar and secure a good base.

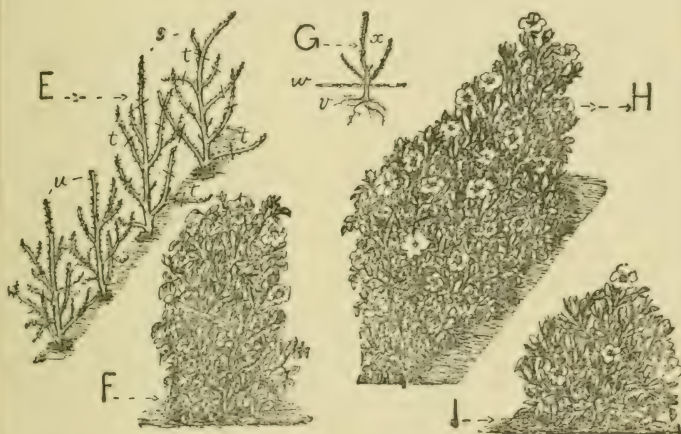


- C, planting in a trench, the Briers being 1 foot apart : *i*, trench taken out by line 9 to 12 inches deep and nearly perpendicular ; *j*, plants with roots properly disposed in the trench ; *k*, soil removed from and afterwards returned to the trench.
- D, planting on prepared trenched ground where the soil is solid and clayey : *l*, drain pipe with proper fall and outlet ; *m*, bottom spit soil broken up with a fork and left there, but mixed with manure ; *n*, second spit soil turned, and decayed manure and gritty matter intermixed ; *o*, top spit soil turned upside down as in digging ; *p*, natural stratum ; *q*, Brier properly planted ; *r*, mulch.

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 34.—PLANTING AND PRUNING ROSE HEDGES.—II.

E, part of a hedge of Sweet Brier : *s*, plants untrimmed in the season of growth, a plan sometimes adopted in the first season ; *t*, points of pruning to ensure a compact and branched habit ; *u*, plants that have had the tops cut off at an even height, and straggling side growths shortened regularly in July or early August, thus inducing a compact growth.



F, end of a hedge of Sweet Brier in bloom, indicating the desirable formation which is secured by shortening straggling side growths and topping upright growths during the growing season.

G, one year old plant of Scotch Rose, *Rosa spinosissima*, from a cutting : *v*, roots ; *w*, depth of planting ; *x*, top, usually not requiring shortening.

H, hedge of Scotch Rose in flower, the sides being trimmed to form a shape about twice as wide at the bottom as at the top of the hedge.

I, end of Scotch Rose hedge of natural formation, only the irregularities of growth being removed as desired for symmetry.

(Continued from page 70.)

back is not advisable. Thinning may be resorted to if the trees threaten to become crowded, and in this case the oldest wood may be cut right out to give room for new wood, which will bloom well when mature.

Pruning Crimson Rambler Rose.

The immense popularity of Crimson Rambler renders a few words on its management obligatory.

There is reason to fear that the wonderful luxuriance of this grand Rose will lead to cultural neglect. It will be regarded as capable of looking after itself. So it is, if it is given an open situation and deep, fertile soil. But that is not to say that it may not be improved by skilled attention.

The freedom of growth which characterises Crimson Rambler may easily be its bane, for it tends, by the accumulated shoots of years, to become a thicket. The old wood, which has flowered once, twice, or more, becomes weak, and the young growth, which gives the finest flowers, has not sufficient space to develop and ripen.

Anyone who makes a beginning with a young plant which has only one shoot should cut it down close to the ground. A new shoot will push strongly, and may be lightly shortened the following spring.

In the second season, if not the first, flowering side shoots will break freely, and at the same time young growths will spring up from the base, which will bloom the following year.

If the soil is good, and the plant healthy, shoots will push up from the base every year, and it is the business of the grower to take advantage of this fact, and thin out periodically old canes which have done duty, taking care, of course, to retain a few canes in a ripe, flowering state.

(References to Fig. 35, page 75.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

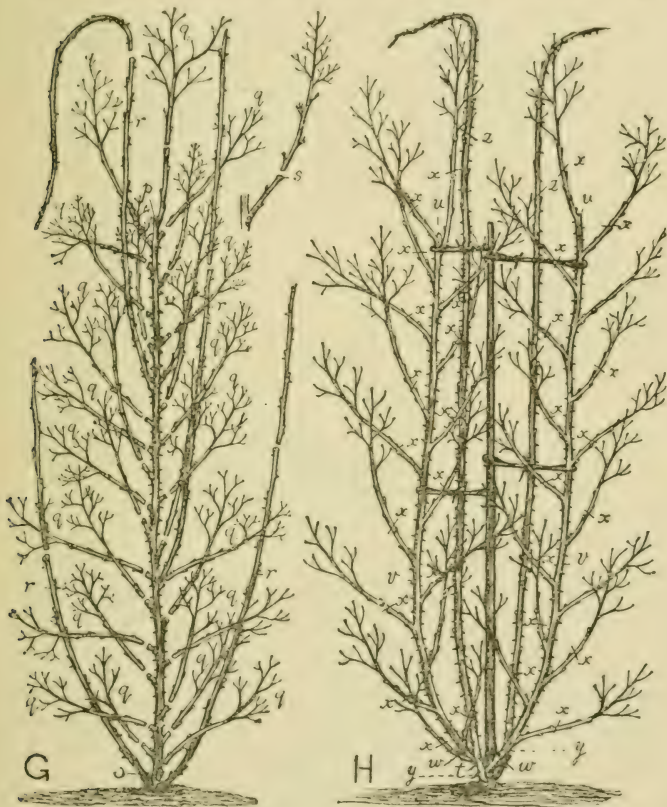
FIG. 35.—PRUNING CRIMSON RAMBLER.

Q, a tree at the third winter pruning after planting: **o**, point of cutting down a one shoot plant in spring after planting, and only one shoot retained in the following summer; **p**, point of shortening the shoot produced in the preceding summer; **q**, flowered shoots; **r**, young shoots for furnishing the space evenly. In this case the flowered branches are shown shortened to within about two buds of their base, this being advisable where there is a great deficiency of young shoots from the bottom of the stem and along it. Where there is a fair supply of young wood it is not advisable to prune very closely, but to leave about three good buds, as shown in the flowered shoot at **s**. With plenty of young shoots the best plan is to

(References continued from page 74.)

cut all the flowered shoots off close to the stem and shorten this to the first young shoot.

II, a tree on the low pillar or stake system: *t*, point of cutting down a one shoot plant to originate strong growths. Three or four usually result, but only two are retained, the others being cut back to a bud or two, as



it is always advisable to have dormant buds at the collar of the plant; *u*, point of shortening the two strong shoots, always to well matured, dormant wood buds; *v*, flowered branches; *w*, points of cutting them away either in the first or second winter after flowering; *x*, points of spurring if retarded a second year; *y*, young shoots encouraged from the base for flowering another season; *z*, points of shortening.

If there is abundance of strong young wood, and plenty of room for it to grow and ripen, the flowered side shoots on the ripe wood may be cut clean out; but if there is any deficiency they may be spurred back to two or three eyes, in order to secure fresh flowering growths from the same cane.

Unless young, ripe, flowering canes are scarce, it is not advisable to bloom a mature cane more than twice, and it is particularly necessary to guard against a tree becoming a thicket of old, gnarled, barkbound wood.

The pruning of pot Roses will be dealt with in a special chapter on pot Roses.

Chapter 10.—The Enemies of Roses.

IT would add to the comfort of the Rose grower if he could feel that, having well performed his duty in the planting and

(References to Fig. 36, page 77.)

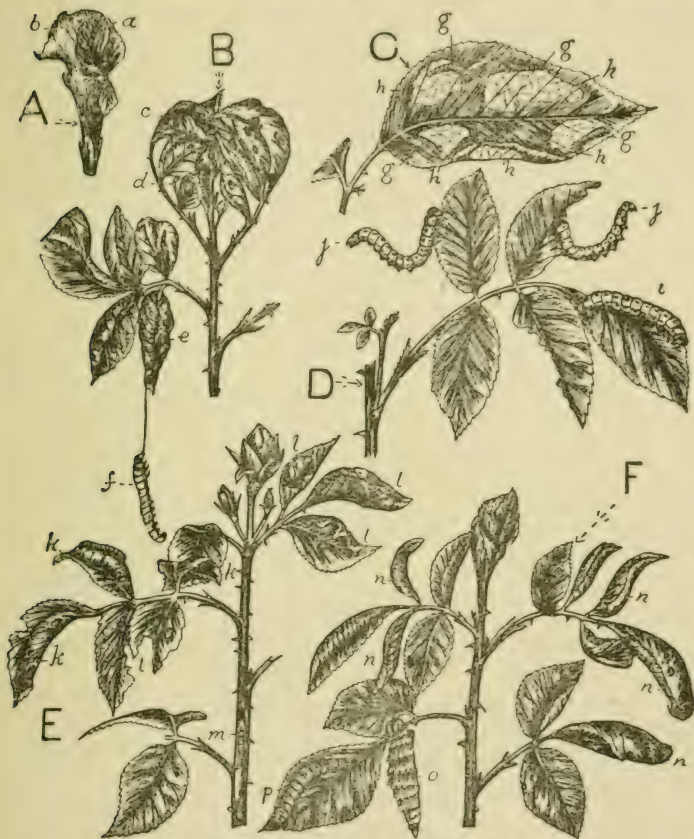
PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 36.—ATTACKS OF CATERPILLARS AND GRUBS ON ROSES.

- A, growth completely fastened together by the threads and overspread by the web of the caterpillars from which develops the Small Ermine Moth, *Hyponomeuta padella*, as found on the Dog Rose in spring, two-thirds natural size: *a*, web, forming a so-called web-nest in which the caterpillars lurk and eat, destroying the young growths, then migrating to other shoots, and so on until full fed; *b*, caterpillar, a great number of which passed out of the web-nest while being sketched.
- B, an attack by caterpillars that live between leaflets united by threads of silk, and when disturbed let themselves to the ground by a silken cord. They often fold the leaves over the flower bud and injure, if not destroy, it. Amongst these enemies are the caterpillars of the Geometer Moth, *Cidaria fulvata*; and the Winter Moth, *Cheimatobia brumata*, also many species of Tortricina, such as *Lozotœnia Rosana*, *Croesia Bergmanniana*, and *Peronea variegana*: *c*, leaves folded over the bud; *d*, infested flower bud; *e*, folded leaflet; *f*, suspended caterpillar.
- C, a leaf infested by Rose Slugs, the larvæ of the Rose Slug Sawfly, *Eriocampa Rosæ*: *g*, Rose Slugs; *h*, patches where the upper skin of the leaflet has been eaten away, the affected leaves turning brown, and the whole tree, in bad cases, having a scorched appearance.
- D, an attack by the Rose Leaf Sawfly, *Hylotoma Rosæ*: *i*, caterpillar undisturbed; *j*, attitude of caterpillars when disturbed.
- E, an attack by the caterpillars of the Sawflies *Blennocampa pusilla* and *Emphytus cinctus*: *k*, the work of *Blennocampa pusilla*, the larvæ

(References continued from page 76.)

turning up or down the sides of the leaflets and living protected in these retreats; *l*, injury caused by *Emphytus cinctus*, the larvae of which feed on the edges of the leaflets, and when at rest live curled up in a ball on the lower surface of the leaflets; *m*, larva of Stem-borer Sawfly,



Pæcilosoma candidatum, which bores into the pith of growing shoots of Roses in May and June, causing the leaves to wither.

F, an attack of Rose Caddice Fly, *Lyda inanita*: *n*, folded leaves; *o*, tubular sack formed of fragments of Rose leaves arranged spirally, in which the larva lives; *p*, larva or caterpillar.

pruning of his Roses, he had done all that was necessary to secure them long life and robust health.

Unhappily, this is not the case. There is a horde of voracious enemies to reckon with.

It is a little hard on the grower to have to wage a constant battle against insects and fungi. He is not unnaturally inclined to think that he has a grievance, and that Nature is rather unkind to him. Well, we must take her as she is because we cannot alter her. If she spared us the orange fungus and grubs we should be very grateful to her; but she does not, and there is an end of it. There is, however, one thing to be said—the better we grow our plants the less trouble we shall have. Strong Roses, growing vigorously in well-trenched, well-manured soil, are never so badly pestered as weak bushes, struggling for bare life in poor, hungry ground.

It may be well to take the worst enemies of Roses one at a time and give a little consideration to their mode of attack and methods of prevention.

Rose Slugs.

The small caterpillars of *Eriocampa Rosæ* attack the upper skin of the leaves, and cause them to become patchy. Sometimes the leaves are completely skeletonised. The attack may be checked by hand picking, or by spraying with soaparite (see page 84), or by dusting with Hellebore powder (see page 84).

Rose Sawflies.

The caterpillar of the sawfly, *Blennocampa pusilla*, is an all too familiar enemy. The Rose grower observes the leaves of his plants curl, and on examination finds a small caterpillar snugly ensconced in the enclosure. If he be made of common human clay, nothing satisfies him except crushing the lurking enemy with his finger and thumb, and, as a matter of fact, persistence in this somewhat bloodthirsty method of clearance is about the best course which could be pursued.

Small Ermine Caterpillar.

This, like the caterpillar of the Lackey moth, is most often found on fruit trees, colonising in a web-nest, but it sometimes spreads to Roses. The colony should be brushed out of the tree before it has time to get into active operations, and destroyed.

Leaf-binding Caterpillars.

One of the worst of these is the caterpillar of the Geometer moth, which binds the leaflets together, and if disturbed makes for the earth on the end of a thread. Fourteen stone of humanity applied to him directly he gets there has been known to have a soothing effect. This pest, and other caterpillars

that operate similarly, should be searched for in the bound and rolled leaves. Or the bushes may be sprayed with Paris Green (see page 84).

Leaf-eating Caterpillars.

One of the most troublesome of these is *Emphytus cinctus*, which feeds upon the edges of the leaves. It may be cleared off by handpicking, or Paris Green may be applied.

Stem-boring Grub.

The larva of *Pæcilosoma candidatum* is happily not a common enemy, for his method of attack is insidious. He eats his way into the young shoots. These may be cut off and burnt, but converting the grub into ashes does not altogether compensate for the loss of promising shoots.

Rose Caddice Fly.

The larva of *Lyda inanita* forms for himself a comfortable home by spirally arranging fragments of Rose leaves. Housing plans of this sort should be foiled by a vigorous pressure.

Leaf-cutter Bee.

The grower sometimes finds holes in otherwise sound and healthy leaves, cut with remarkable evenness. These are the work of the leaf-cutter bee, *Magichile centuncularis*. She uses the parts removed for lining her nest. Unless her operations are very extensive little harm is done; if they become destructive, the bee or her nest must be sought for and destroyed.

Aphis or Fly.

Greenfly is a great enemy of Roses, especially in a dry spring. In the absence of heavy rain a vigorous hosing is advisable. Or the bushes may be sprayed with soaparite.

Rose Bedeguar.

This is a curious moss-like growth, in reality a gall, protecting the larvæ of the fly *Rhodites Rosæ*. It is not usually present in dangerous numbers, but may be cut off to prevent spreading.

Red Spider.

This does not, as a rule, trouble Roses very much, but is apt to cause damage when the plants are suffering from drought, especially in the case of *Crimson Rambler*. Growers of this Rose should avoid shallow, hungry soils in dry positions. Moisture, which encourages vigorous, healthy growth, will keep red spider at bay.

Rose Grub.

The larva of *Tortrix Bergmanniana* is a common pest on Roses late in spring. It must be checked by handpicking.

Mildew.

Rose mildew, the fungus *Sphærotheca pannosa*, is one of the many pests of Roses. It attacks plants both in the open air and under glass, covering them with a whitish down, and causing loss of foliage and general ill-health.

Mildew is not usually a source of serious trouble on outdoor Roses when the soil is deeply and well cultivated, and the plants are well fed. Yet unkindly weather may predispose them to attack.

Plants under glass are almost sure to be affected if cold draughts blow on them, and not a few cultivators screw down their ventilators late in summer in order to prevent any risk of an attack from this source.

The favourite remedy for mildew is flowers of sulphur, which is usually dusted on by hand. It is often effectual, especially if applied during an early stage of the attack. Those persons who have many Roses would do well to procure a pair of Malbec bellows from the florist or sundriesman, as with their aid the sulphur (which may with advantage be mixed with one-third of lime) can be thoroughly distributed, both on the under and upper surface of the leaves.

A modern remedy for mildew which is worthy of mention is liver of sulphur (sulphide of potassium). Half an oz. of this ill-smelling substance may be dissolved in $1\frac{1}{2}$ gallons of hot water and sprayed on.

Orange Fungus or Red Rust.

When the experienced Rose grower observes orange-yellow spots on the leaves of his plants in early summer he knows that he sees the advance guard of the fungoid disease known variously as orange fungus and red rust.

Some suppose these to be separate diseases; on the contrary they are separate stages in the triune life-cycle of one disease, *Phragmidium subcorticatum*. The first, or *Æcidium*, stage, gives the orange fungus; the second, or *Uredo* stage,

(References to Fig. 37, page 81.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 37.—MILDEW ON ROSES.

- A, affected growths of Hybrid Perpetual Roses: *a*, first or summer growth which has been shortened after flowering to induce vigorous second growths to push for the second blooming; *b*, second or so-called autumnal shoots; *c*, an attack of fungus on the wood; *d*, leaves infested. B, the summer form of the fungus, popularly known as mildew: *e*, the

(References continued from page 80.)

surface of the leaf; *f*, the mycelium of the fungus; *g*, a conidiophore having conidia or spores, $\times 300$.

C, the winter form of the fungus, a minute, blackish perithecium, immersed in felted mycelium on the leaves or shoots: *h*, perithecium; *i*, appendages, $\times 100$.



D, the breaking up of the perithecium in the spring or early summer: *j*, the perithecium broken up in which the ascus has been kept during the winter; *k*, ascus free and discharging spores, $\times 200$.

E, winter spore germinating: *l*, spore; *m*, germ tube, $\times 200$.

F, summer spore germinating: *n*, spore; *o*, germ tube, $\times 300$

gives the red rust; the third, or Teleuto stage, gives a black rust.

Where the orange fungus has obtained a strong hold, and has caused trouble for several successive years, it cannot be exterminated at a single attempt. Repeated attacks on it must be made. Measures may begin by spraying the bushes thoroughly in spring before growth starts with Bordeaux Mixture (see page 84). When the first signs of the disease appear in summer spray with Carbam (see page 84), repeating if necessary. The solution should reach the under as well as the upper side of the leaves.

Any leaves that contain signs of black rust should be burned in autumn.

Canker in Maréchal Niel.

Canker frequently attacks the plant at the point of union. It is familiar to growers of Maréchal Niel, both out of doors and under glass; indeed, so common is it that many look for it as a natural course, much as they do for canker on a Ribston Pippin Apple, or for the collapse of branches on a Moorpark Apricot.

Canker frequently attacks the plant at the point of union, in the case of worked trees, but by no means always; attacks have been noted on almost all parts of the tree. The cause is not easy to trace. Members of the old school of pruners shake their heads at modern long pruning and prophesy canker, only to find their own lightly pruned trees suffer as badly, or worse.

In many cases the same predisposing cause as tends to canker in fruit trees, namely insufficient nourishment, operates, and in all cases where poverty of soil is suspected good soak-

(References to Fig. 38, page 83.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 38.—ORANGE FUNGUS ON ROSES.

A, a portion of the growth of a Hybrid Perpetual Rose affected with orange fungus in several stages. *Æcidium* stage: *a*, a large pustule on the previous year's wood, which has developed from a minute spot into a conspicuous, powdery, orange coloured patch. It causes distortion of the branch in most cases, always a wound; *b*, a pustule on the current year's wood, generally forming a large patch, and partly girdling the shoot; *c*, powdery, orange coloured pustules on the under side of the leaflets; *d*, pale yellowish patches on the upper surface of the leaves, due to the presence of fungus mycelium in the tissues, and corresponding to the orange patches on the under side; *e*, a pustule of the fungus on the petiole of the leaf. All these bear irregularly globose, sometimes angular by compression, *æcidiospores*. *Uredo* stage: *f*, the under side of the leaflets with sori or patches of powdery, brick red bodies or *uredospores* (indicated by orbicular spots with white centres), and small

(References continued from page 82.)

spots, at first yellowish, then black (indicated by dots), which are teleutosori; *g*, yellowish spots on the upper surface of the leaflet, due to the mycelium of the fungus in the tissues, and corresponding to the uredosori on the under side. Teleuto stage: *h*, leaflets with spots or



sori of teleutospores, scattered or aggregated, orbicular, black, and minute.

B, *Aecidium* spores, three as detached and one germinated: *i*, germ tube, $\times 300$.

C, Uredosori, three detached and one germinated: *j*, germ tube, $\times 300$.

D, Teleutospore consisting of several cells, with germination from a cell of the teleutospore: *k*, pro-mycelium; *l*, sporidium, $\times 300$.

ings of liquid manure and a mulch should be supplied. Or a dressing of artificials may be given.

The canker may be cut away with a sharp knife or chisel, and the wound dressed with Stockholm tar.

That well-known Kentish rosarian, the Rev. H. B. Biron, has achieved successful results by making a slit in the bark $\frac{1}{8}$ to $\frac{1}{2}$ inch deep, right through the canker wound, beginning well above it and finishing well below. This is done in spring, at an early stage of the disease. The wound gapes, fresh bark forms, and the sap again flows strongly.

Washes for Insects and Fungi.

Bordeaux Mixture.—To prepare Bordeaux Mixture take

2½ lb. of sulphate of copper (bluestone).				
Dissolve in a little hot water				
2½ lb. of freshly burned lime.	Dissolve			
in cold water				
1 lb. of agricultural treacle				
or				
1 lb. of soft soap				

Pour together when cool; stir the treacle or soft soap well in, and make up to 25 gallons with water.

Carbam.—To prepare carbam take

1 oz. of carbonate of copper				
½ pint of liquid ammonia... ..				

Dissolve the carbonate of copper in the ammonia, and mix with 10 gallons of water.

Hellobore Powder.—This may be procured from chemists or horticultural sundriesmen. It is usually dusted over the bushes in a finely ground state, while they are damp. As a solution, 1 oz. and an equal quantity of size may be dissolved in 1 pint of hot water, and this mixed thoroughly when cold in 1 gallon of water.

Paris Green.—This arsenical compound may be prepared as follows: Take

1 oz. of Paris Green paste				
2 oz. of soft soap				
20 gallons of water				

Mix well, and keep stirred while in use.

Soaparite.—To make soaparite take

1 lb. of soft soap ...				
1½ pints of soft water				
½ pint of petroleum				
("paraffin") ...				

Boil well for half an hour
Stir into the above directly it is taken off the fire
Pour the mixture into a tub containing ten times its quantity of water, and churn with a syringe.

(References to Fig. 39, page 85.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

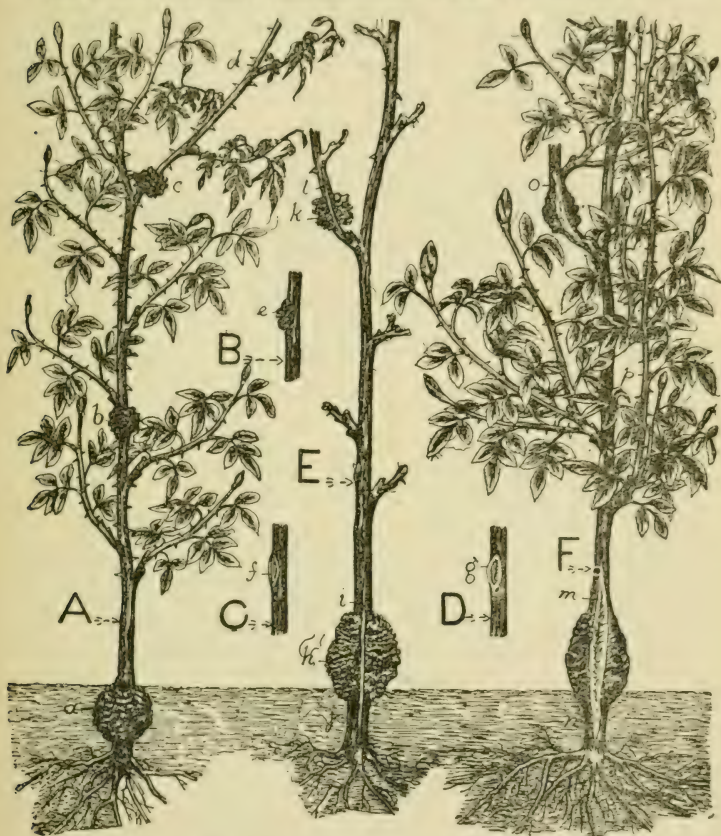
FIG. 39.—CANKER IN MARÉCHAL NIEL.

- A, a plant infected in various parts: *a*, an attack below ground at the point of budding; *b*, canker on the stem above ground; *c*, an attack on a branch; *d*, a branch which has collapsed through being girdled by canker. B, the first appearance of canker on a stem or branch: *e*, canker. C, a branch from which a canker patch has been cut clean off to sound bark: *f*, the wound, which has been dressed with Stockholm tar thinned to a paint-like consistency with paraffin oil.

(References continued from page 84.)

D, the effect of cutting off a canker patch : *g*, growth of new bark at the circumference of the wound.

E, the Rev. H. B. Biron's mode of curing canker : *h*, canker on the stem at the collar of the plant ; *i* and *j*, slit made vertically through and continued



above and below the canker ; *k*, canker on a branch ; *l*, slit made through the canker.

F, result of cutting through the canker patches : *m*, the slit, which has opened and fresh bark formed at the edges ; *n*, point from which new roots are often emitted ; *o*, a slit on a branch which has opened and fresh bark formed at the edges of the cut ; *p*, a vigorous shoot which has pushed.

Roses with Green or Blind Centres.

These troubles can hardly, with perfect consistency, be included amongst Rose enemies, inasmuch as they are not the work of insects or fungi. They are, however, very real.

Roses frequently come with green centres when the plants are unhealthy or weak, rarely when they are vigorous and sound. The remedy, therefore, lies in improved cultivation. Those who treat soil and plants on the lines laid down in previous chapters will not, it is hoped, have much disappointment on this score.

"Blind" Roses, that is blooms which appear to become petal-bound in the centre while still in the bud stage, and unable to open, are, unhappily, common in town gardens after the first year or two of their existence. Roses are not town plants, and dislike an impure, fog-and-acid-laden atmosphere. The townsman should not run the risk of almost certain failure by growing a large number of Roses, but should carefully choose a few; then, with good culture, he may achieve successful results.

Chapter 11.—How to Exhibit Roses.

WHEN the Rose grower becomes an exhibitor he develops into a rosarian.

It would be futile to moralise on the hollowness of the reasons by which the great metamorphosis comes about.

(References to Fig. 40, page 87.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

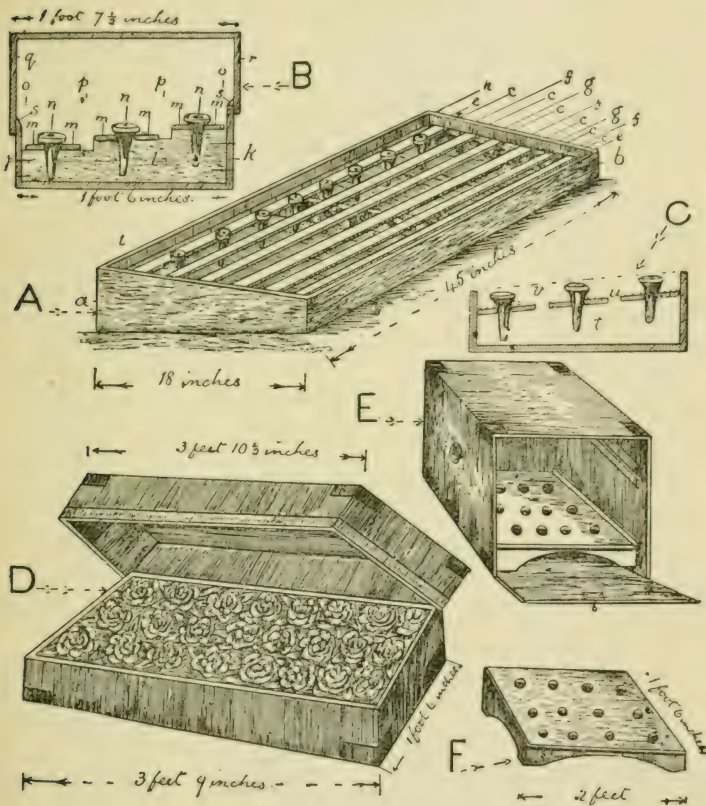
FIG. 40.—EXHIBITING ROSES.—I. STANDS AND BOXES.

- A, Dean Hole's box—lath system for tubes instead of holes: *a*, back (7 inches deep); *b*, front (5 inches deep); *c*, laths ($\frac{3}{4}$ inch in depth and $1\frac{1}{2}$ inch in width); *d*, crosspiece of wood (one at each end and another in the centre, fixed 2 inches below the surface of the box); *e*, upper and lower laths fixed $\frac{1}{8}$ inch within the box; *f*, interstices $1\frac{1}{4}$ inches in width for the tubes; *g*, other interstices $1\frac{1}{4}$ inches wide; *h*, space $1\frac{1}{4}$ inches deep between the laths and the upper edge of the box for receiving moss; *i*, edge.
- B, a section of Dean Hole's Rose box with laths for tubes in steps: *j*, front (5 inches deep); *k*, back (7 inches deep); *l*, crosspiece to support the laths (one piece at each end and another in the middle); *m*, laths; *n*, tubes; *o*, $\frac{1}{8}$ -inch interstices; *p*, $1\frac{1}{4}$ -inch interstices. Lid: *q*, front

(References continued from page 86.)

(8 inches in depth); *r*, back (6 inches in depth); *s*, beading $\frac{1}{2}$ inch from the bottom of the lid.

C, section of Dean Hole's Rose box with laths on an incline: *t*, clear space below the laths; *u*, covering of brown paper, the sheets two deep and cut to fit the box; *v*, space for filling with moss.



D, a show box as usually supplied by horticultural sundriesmen, made of best yellow deal, dovetailed, painted green, and fitted with iron corners and water tubes at prices, about (each): For twelve blooms, 17s. 6d.; for eighteen blooms, 23s. 6d.; for twenty-four blooms, 28s. 6d.

E, a show box fitted with two show boards.

F, a show board or stand for twelve blooms.

Sufficient is it that they are securely rooted in the national character, and are therefore unchangeable.

A man grows Roses thoroughly well for twenty years of his life, but does not exhibit; he remains a grower. In the twenty-first year, with the bulk of his Roses worse than they have been during any year in his two decades of experience, he wins a fourth prize in a class for six at the National Show; straightway he becomes a rosarian.

As a mere grower this person may lift voice or pen as he will; it is all in vain; in Rose circles he is a nonentity. That magical prize card gives him eloquence and wisdom and power; he is a rosarian!

Let us recognise the futility of protest or jibe, accept things as they are, and pass on. There comes a time in the life of every man when ambition rears its head. He yearns to soar to the heights of fame; how can it be done?

In the first place, let him become a member of the National Rose Society. The mere fact of membership acts as a spur. People learn that he is a member, and look upon him as a superior being. In a word, he has something to live up to.

In the second place, let him devote a few hours to visiting the leading exhibitions. This will give him a still further stimulus. He will see what other people do, and the fire of emulation will burn fiercely. He will learn points about the standard of quality in flowers, about setting them up, about show boards, about cups and tubes, and other practical matters.

In the third place, strengthen the collection. In gathering hints one summer to be put into force the next, realise the great fact that although little matters in arrangement and setting up have weight, the real factor is the quality of the blooms. Strengthen the collection. Strengthen it in numbers, in variety, in novelties, in culture.

In the fourth place, procure the various mechanical

(References to Fig. 41, page 89.)

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 41.—EXHIBITING ROSES.—II. CUPS AND TUBES.

- G, common zinc cups and tubes: *w*, cup (usual form, 2 inches wide); *x*, cup (ordinary funnel shaped); *y*, tube; *z*, cup and tube fitted; *a*, cup; *b*, tube; *c*, clip for zinc tube (the clip affixed to the show board); *d*, the clip holding the tube.
- H, Beckett's zinc cups and tubes: *e*, cup; *f*, tube; *g*, cup and tube fitted; *h*, a Rose set up in Beckett's extending cup and tube.
- I, support (galvanised wire) for fixing into the tube and holding the bloom.
- J, Springthorpe's cup and tube: *i*, cup (this has a brass side spring for enabling the exhibitor to adjust the flower quickly and securely in the tube); *j*, end of tube showing the method of fixing the flower stem (the tube having also one brass side spring, which passes through a flange fixed to the show board from the under side, thus enabling the exhibitor

(References continued from page 88.)

to raise the bloom 7 inches from the show board, with instant adjustment); *k*, show board.

K, Foster's Rose tubes, zinc, fitted with supports: *l*, cup; *m*, tube; *n*, support.



L, Foster's galvanised wire support for a specimen bloom.

M, Tidy's telescope cup and tube: *o*, cup; *p*, tube; *q*, lengthening tube with a screw at the side to secure the tube at the desired height; *r*, the socket fixed to the show board with a screw to adjust the lengthening tube as desired; *s*, the cup and tube; *t*, the show board.

appliances early. It is dangerous to leave the duty of procuring shades for the flowers until they are being battered and blown and burnt by shower and sun. It does not conduce to ease of mind to discover, forty-eight hours before the show, that although the box is ready the tubes are missing. Boxes and tubes should be prepared in winter.

Exhibition Boxes.

Fig. 40 will give some very useful information about show boxes, and it may be briefly supplemented. The following table gives the standard sizes:—

Number of flowers.	Length.		Breadth.		Height at back.	Height in front.
	Ft.	in.	Ft.	in.	In.	In.
6	1	0	1	6	7	5
12	2	0	1	6	7	5
18	2	9	1	6	7	5
24	3	9	1	6	7	5

Collections of thirty-six, forty-eight, and seventy-two may, of course, be made up from the foregoing sizes. It will be seen that the boxes are uniform in breadth and height. The lids should be 6 inches high at the back and 8 inches at the front, making a uniform height, when the boxes are closed, of 13 inches. The material used may be $\frac{3}{4}$ -in. yellow pine painted green.

Perhaps the commonest form of stand is that in which holes are provided for the reception of the tubes. An alternative plan is the employment of laths, which have the advantage that the flowers may be spaced laterally. Moreover, the lath stand is lighter than the other. The laths are fitted lengthwise, and accommodate three parallel rows of flowers. Thick brown paper is spread over them, surfaced with fresh green moss.

Cups and Tubes.

The support for a Rose in an exhibition stand is usually in two parts, a cup and a tube, the former open at the bottom, the latter closed, and holding water. The cup being of slightly smaller diameter than the tube, fits in it, and may be pulled up, or pressed down, as required. Both are of zinc.

The ordinary cup-and-tube combination is usually $4\frac{1}{2}$ inches long and 2 inches wide at the top. It is cheap and handy, but there are several improved forms on the market, which, though costing rather more, are desirable, because they are steadier

than the simple old form, and enable the flowers to be adjusted to a greater nicety.

Foster's cup and tube (see K, Fig. 41) find favour with many exhibitors. A coiled wire support is provided, which may be pressed into the cup, higher or lower as required, cannot slip, and holds the flower firmly.

Beckett's cup is also fitted with a coil wire support. It is an excellent article.

Springthorpe's cup-and-tube device is very popular. It has a side spring to hold the bloom.

In Tidy's tube the arrangement is telescopic, and a small side screw holds the tube when raised or lowered to the desired height.

There is not a great deal to choose between these devices. Some exhibitors like one, and some another. They can be procured, as a rule, from florists and seedsmen, or from horticultural sundriesmen advertising in the gardening papers.

Shades and Shelters.

It is scarcely necessary to say that the weather is a very important factor in connection with Rose showing. What does it not affect, from great cricket matches to school treats? To grow fine Roses is good, but it is not always enough; they must be at their best at a given time if prizes are to be won.

Heavy showers and blazing sun often cause the young exhibitor anxiety. Rain may dash, damage, and spoil the finest flowers; hot sun may burn the colour out of them. For this reason protectors are necessary. Rosarians frequently contrive their own, and it is on record that when the Rose season approaches one famous exhibitor regularly hies to a railway lost luggage sale and buys up a stock of ancient umbrellas! Something smaller, neater, and less liable to be blown to smithereens by a summer gale is perhaps advisable in a general way.

Zinc caps make excellent protectors. The first cost may be rather greater than that of a paper or cloth cover, but the caps are durable. The cap is provided with a socket, which slides up and down a stake, and is fixed in the required position by small wedges. Care should be taken not to have it so close that the bloom comes into contact with it when moved by the wind.

Selecting and Arranging Flowers.

The exhibitor should go over his flowers on the evening before the show day and select a number of promising blooms. The flowers should have so far passed the bud stage that the outer petals are half open, but any that show the slightest tendency to being, or shortly becoming, blown must be rejected.

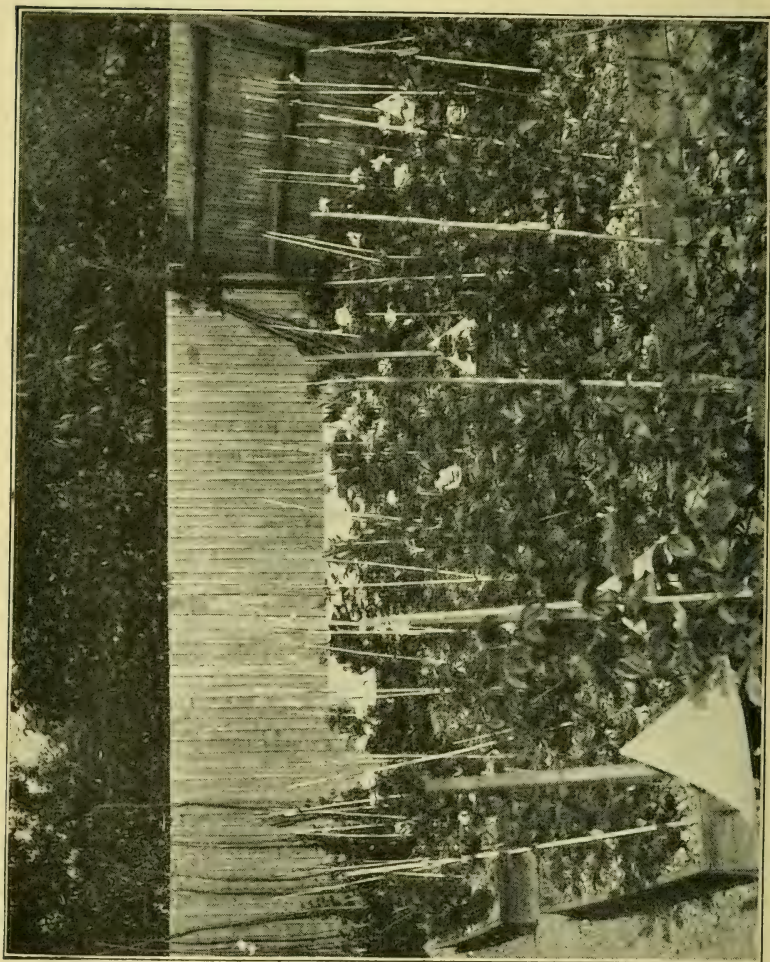


FIG. 42.—PRIZE ROSES GROWN IN A BACKYARD.



Photo: Cassell & Company, Ltd.

FIG. 43.—A HOUSE OF POT ROSES. (See Chapter 12.)

Round the centre of each selected flower carefully fasten a piece of raphia, which may remain until the flowers are arranged in the stand. Always take more flowers to the show than are required for the stand, in order to be able to make a choice when setting-up time comes, but if there are two blooms of one variety, watch them carefully; they have a nasty way of sneaking in and getting you disqualified for duplicating.

The old parliamentary hand is great on getting a strong back row. He knows that substance there, combined with freshness, catches the judge's eye quickly. The heaviest flowers should go to the back.

While, however, weight is regarded, and rightly regarded, as a point, symmetry and freshness must never be overlooked. A blown flower must be rigidly excluded. It might find favour with Mr. Broad Beans at the rural show, but try it on, under the encouragement afforded by the estimable Mr. Beans, at the National, and a catastrophe will ensue.

If with youth and freshness you can unite size, it is well, for in the Rose tent, as on the turf, the old trainer's dictum holds the sway, "A good big 'un will always beat a good little 'un."

Chapter 12.—Roses in Pots.

It has been urged against the Rose, by those outside her charmed circle, that she is a short-lived beauty, whose season is gone almost as soon as it comes.

Were this true, Rose worshippers would be Rose worshippers still. They would tell you that an hour with a queen was better far than æons with a scullerymaid, and keep the flame of their affection strong and pure from one season of flowering to another.

But it is not true. Time was when the reproach carried some weight. We grew little or nothing but Hybrid Perpetuals, and for most of the year they were flowerless, but in these latter

(References to Fig. 44, page 95.)

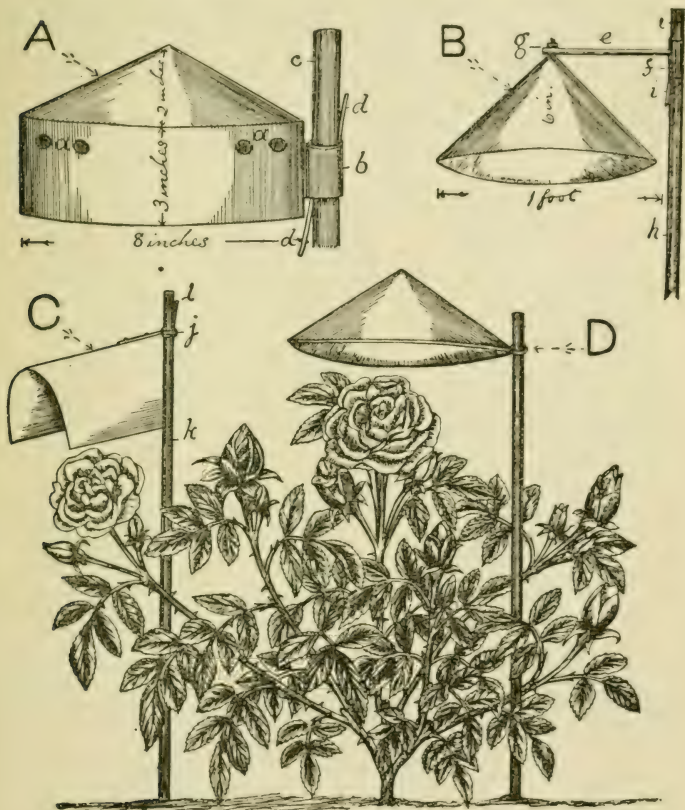
PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 44.—SHADES FOR SHOW ROSES.

A, Dean Hole's zinc cap or helmet, 8 inches in diameter and 5 inches in depth: *a*, ventilation openings; *b*, socket; *c*, stake; *d*, wooden wedges.

(Reference: continued from page 94.)

B, dish-cover shaped zinc shade, 1 foot in diameter and 6 inches in depth: *e*, $1\frac{3}{4}$ inch galvanised iron $\frac{3}{4}$ inch wide; *f*, socket (the opening 1 inch in diameter); *g*, bolt and nut by which the shade is fixed to the arm, the



bolt being soldered to the cap inside so as to prevent drip; *h*, stake; *i*, wooden wedges.

C, horseshoe shaped zinc shade, 1 foot long and 6 inches deep: *j*, the socket with $\frac{1}{8}$ -inch iron arm $\frac{1}{2}$ inch wide riveted to the zinc; *k*, stake; *l*, wooden wedge.

D, bloom protector as sold by horticultural sundriesmen for shielding specimen Roses.

days a host of lovely Teas and Hybrid Teas have sprung into being, which bloom unweariedly for months together.

Moreover, the culture of Roses in pots has extended, and so we find that we can get Roses in winter and in spring, in summer and in autumn.

Every large establishment ought to have its Rose house, and every greenhouse ought to contain a pot or two of Roses. The culture routine is simple, and a few pretty buds in spring are always welcome.

What and When to Buy.

Buy young plants always. The best of growers cannot maintain the vigour of Roses which have been subjected to forcing unimpaired for many years. Young plants are best, and it is not at all a bad plan to buy them a year old from the bud.

Roses in pots may be bought at any period of the year. Autumn is perhaps the best, as good plants are tolerably certain then. If there is a sheltered place at command, the plants will do out of doors with the pots plunged in ashes, but in cold places it is wise to winter the plants in a cool house, pit, or frame, if such a convenience is at command.

Many people pot Roses from their own gardens; the time for this is October.

Pots, Soil, and Drainage.

In starting the pot culture of Roses, a common mistake is to use very large pots. Six-inch (32's) are generally quite large enough for young plants. If a very strong plant were purchased or lifted, with a large ball of soil and roots, it might have a 7- or 8-inch. For soil, a staple of turfy loam is very desirable. There is nothing to beat it, if, indeed, to equal it. It is cheapest to buy turf and stack it grass side downwards for a year, with a coat of decayed cow manure between each two layers of turf. If this is chopped down, and a tenth part of sand added, it will make a splendid mixture. For drainage, place a large crock or oyster shell over the hole, cover this with smaller pieces evenly overlapping, and these in turn with a $\frac{1}{2}$ -inch thickness of moss.

Roots and Potting.

Snip off the ends of any roots that are broken, but if the root structure is fibrous do not otherwise reduce it. If the fibres have to be coiled a little in the pot it will not matter. If the root area is confined to two or three strong fangs, it will be necessary to shorten them. In potting, it is advisable to make the soil very firm. Note the point where the plants have been worked on to the stock, and so arrange matters that it is just below the surface of the soil when the potting is finished. Keep the plants in a shady place for a few days, and maintain

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 45.—ROSES IN POTS.—I. BUSHES.

- A, a one year old plant from a bud or graft, showing potting: *a*, drainage; *b*, a layer of the rougher parts of the compost; *c*, soil; *d*, roots. Pruning: *e*, points of shortening to two buds when the upper ones on the shoots begin to swell.
- B, a two years old plant in the second season after being put into a larger sized pot, the plant being turned out, some of the old soil removed, and the coiled roots widened out: *f*, drainage; *g*, rough soil; *h*, soil; *i*, space for water; *j*, shoots pruned to two buds each, not counting the small basal ones; *k*, growths which have flowered; *l*, second growths, from which the buds should be removed to prevent a second flowering.



- C, bush in the third year's bloom or the second season after potting: *m*, blooms. Section of pot showing top-dressing when it is not desirable to repot: *n*, drainage, which must always be seen to and rectified if defective: *o*, undisturbed soil and roots; *p*, a top-dressing of rich compost, a corresponding portion of soil having been removed previously; *q*, space for water.

NOTE.—Sometimes the one year old plant from the bud has only one shoot, with some second growths. In this case put it into a 6-inch pot, and cut it down to three buds, then in the following season it will make three shoots, and probably flower and produce second growths, as at *k*, *l* in A. Shift it into an 8-inch pot, and another year there will be the plant B. In the third year there will be the plant C, either by top-dressing or shifting into a larger pot.

the soil just moist, but not sodden : root action will then quickly commence. Should the weather be hot, light syringings will be beneficial. The plants may be placed in their winter quarters directly potting is complete.

How to Prune for Bushes.

The time of pruning must depend upon when the plants are desired to bloom. If the plants are to be forced into flower in February, pruning must be done in November, and the plants started in a warm house. If they are to come steadily and naturally into bloom in a cool house, the pruning may take place as soon as the buds are seen to be swelling. This, it is understood, if the plants are, as they should be if they have been out of doors during winter, put under glass at the time of pruning. It would not be safe if they were to be left out. If a start is being made with one year old plants, the first pruning may be to two buds. In the case of cut-backs (that is, plants which have been previously pruned) the shoots may be shortened, the weakest to two buds, the strongest to three buds. This pruning reduces the plants to mere stumps, but they soon break vigorously in a temperature of 45° to 55° , and become well furnished with shoots, foliage, and flowers.

Plants in Bloom.

With plenty of air in fine weather, and due attention to watering, pot Roses do not, as a rule, give much trouble. It should be noted, however, that overwatering is easy. When pot plants bloom in late winter or early spring the air is cool, and there may be very little sun. Daily watering may or may not be necessary. The only guide is the state of the soil, and that can be ascertained by rapping the pot, which will emit a hollow, ringing sound if the soil is dry. Syringing is good in dry weather. Occasionally mildew or some other fungus will attack the plants, or green fly may put in an appearance. In this case bring into play one of the various remedies mentioned in a previous chapter.

After Flowering.

The plants will be better in the open air than under glass during the summer, but they must not be turned out directly they have finished flowering if the weather is very cold, as the sudden change from warm quarters might do them great injury. When the time does come, find them a sunny spot where they will be out of the way, and plunge the pots in ashes, which will serve the double purpose of reducing the necessity for watering by keeping roots and soil cool and keeping out worms. The plants will very likely show bud again towards autumn, but it is not advisable to let them bloom ; therefore pick off the buds directly they show.

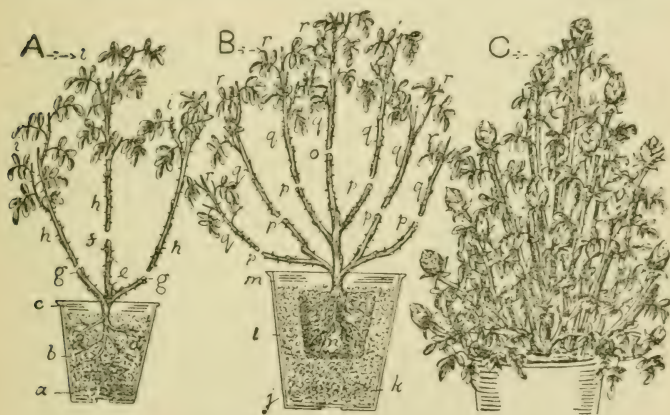
Repotting.

The plants may be repotted in September, and if they have rooted well, and are healthy, a size larger pot will be required. It is wise to have the fresh pots ready washed and drained, and the compost prepared in advance; then the potting is quickly performed. As each plant is turned out, the old soil should be carefully worked away from the roots with a blunt stick, and the

PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 46.—ROSES IN POTS.—PYRAMIDS.

A, a young plant from the open. Section of pot: *a*, drainage; *b*, soil; *c*, space for water. Plant: *d*, roots shortened, because strong, long, and bare, in order to encourage fibres; *e*, point of cutting back the first growth from the bud to three buds; *f*, the leading or central shoot cut back to three buds to secure three shoots, one to be trained upright as a



leader, and the other two opposite the vacancy of the lower shoots; *g*, side shoots shortened to two buds each; *h*, the first growth of the previous summer, usually flowering; *i*, second growths from which flower buds have been nipped.

B, the plant A a year older, showing shifting into a larger pot and pruning: *j*, drainage; *k*, rough soil; *l*, soil; *m*, space for water; *n*, ball of soil and roots, the sides loosened and crocks and loose soil removed; *o*, point of shortening the leader; *p*, points of shortening the side shoots; *q*, shoots which flowered in the previous summer; *r*, second growths not allowed to bloom, but the flower buds pinched off when quite small.

C, the plant B a year older in bloom, the lower growths being tied down and the others secured to stakes so as to form a symmetrical head and display the flowers to the best advantage.

roots examined. Any decaying ones should be cut away, and the others carefully coiled in the new pots. The fresh soil should then be filled in and made firm by steady, gentle pressure. In the case of plants which have reached their pot limit, they may be turned out, the drainage examined and put right if defective, and sufficient soil carefully removed from the outsides of the old ball to admit of a top-dressing of fresh soil when the plant is put back.

Disbudding, Staking, and Feeding.

Plants of three years old and upwards will push a considerable number of shoots, but it is wise to thin them when quite small, leaving a dozen flowering growths at the most. These may be supported by neat stakes. When the plants show buds liquid manure may be given, either from natural sources or in the shape of pinches of artificials scattered on and watered in. This feeding is less necessary for young, freshly potted plants than for old ones merely top-dressed.

Chapter 13.—Sections and Selections.

THE writer on Roses has a kaleidoscopic view of the Rose garden in all its stages in the course of an afternoon's work at an essay. As he touches on the various points in the routine of culture he sees the russet of autumn, the grey of winter, the green of

(References to Fig. 47, page 101.)

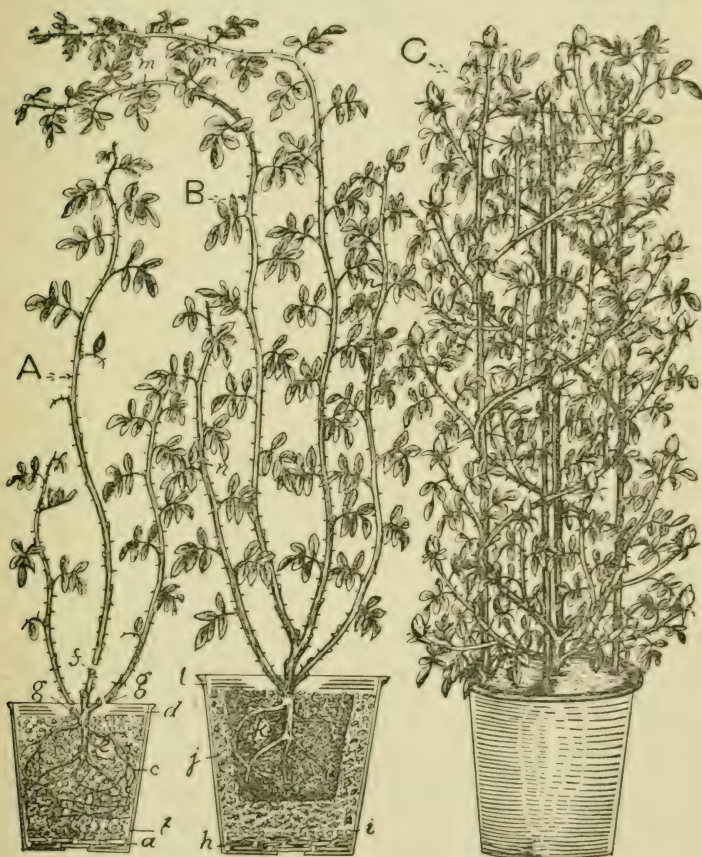
PICTORIAL PRACTICE.—PLAIN HINTS IN FEW WORDS.

FIG. 47.—ROSES IN POTS.—TWINERS.

- A, a one year old plant from a cutting properly potted and pruned. Section of pot (8-inch): *a*, drainage; *b*, layer of rough compost; *c*, soil; *d*, space for water. Plant: *e*, roots coiled round the inside of the pot, and soil worked amongst them; *f*, the strongest and leading growth shortened to two buds; *g*, side shoots pruned to one bud each when the buds begin to swell.
- B, a two years old plant (A a year older) shifted into a larger pot (10-inch) in September, only removing the crocks and loose soil at the sides of the ball. Section of pot: *h*, drainage; *i*, rough compost; *j*, soil; *k*, ball; *l*, space for water; *m*, points of pruning the long shoots, only removing immature points or shortening to the length desired; *n*, points of shortening the weaker shoots, as it is desirable to have the growths of different lengths for twining round the stakes or trellis, and the larger ones, as a rule, do not break well at the lower part.

(References continued from page 100.)

C, a three years old plant coming into flower, the two strongest shoots having been twined the same way round four stakes, and reaching the same height, the other two shoots having been coiled round the stakes at the



lower part of the column, and then secured by fastening the stakes at the top to a stout wire hoop.

The Climbing Roses are very fine when grown in this manner. After flowering they should be cut down, and strong shoots encouraged from the base.

spring, and the brilliant red of summer. If he be not merely a Rose writer, but a Rose grower, if he have a home-grown Rose in his buttonhole, as well as an inexhaustible supply of the finest medal blooms in his inkpot, he will be happy at every resting place on his journey. Autumn will have no gloom for him, winter no chill. He will, however, enjoy most that stage on the road at which he has to linger among the Roses and describe their charms and merits.

It is summer time, and the Roses are in bloom. Let us wander amongst them, picking here, rejecting there. Fragrant memories of old days among the Roses arise. We look back ten years, twenty, thirty. Alas and alack! it must be twenty-seven since I visited my first show—it was at the Alexandra Palace, unless my memory deceives me—and took down names to help a busy reporter. Those names come back—Reynolds Hole, Sénateur Vaisse, Charles Lefebvre, Edouard Morren (dropped out of the National catalogue, I see), Marie Baumann—these were amongst them, I remember.

The old Roses awaken the emotion that arises when one revisits the scenes of boyhood. Poor old Edouard Morren has passed, and the rosarian of these days knows him not, yet he lives enshrined in the perfumed casket of memory.

Joy in the old Roses that still live! Joy in Marie Baumann, joy in Charles Lefebvre! In poring over an old horticultural tome, a volume of the early 'sixties, I came upon a wonderful description of a new Rose, sent out by one Lacharme. I cannot quote the description, it is too long; but it tells of splendid colour, splendid form, splendid habit, splendid vigour, splendid perfume. It prophesies universal popularity. It prophesies fifty years of useful life. The writer—it was A. H. Kent—was a sound judge and a true prophet. Forty-one years have passed, and the last edition of the National catalogue says of Charles Lefebvre: "One of the best Roses grown." It is terse, but what an eloquent tribute to the old Rose, and the old writer!

In the remarks that I propose to make on the various sections of Roses, I shall not attempt, in a concise, popular work such as this, a scheme of scientific classification. The reader who is in search of descriptions of the species may turn to Cassell's "Dictionary of Practical Gardening," where he will find a large number described. I shall deal briefly with the principal sections from a horticultural point of view.

Austrian Briers.

The Austrian Briers of gardens are varieties of *Rosa lutea*, an old single pale yellow species which may be seen flowering in the Rose dell at Kew, near the Pagoda, in June or early July. There are four met with in gardens—namely, the Copper and the Yellow, singles; Harrisonii, yellow, double; and the Persian Yellow, semi-double. Old Roses are these. Did not

Gerarde grow the Copper and the Yellow more than four hundred years ago? In truth, did he. All bloom on the ripened shoots of the previous year's growth, therefore they must not be cut back in spring, but old, weak wood must be thinned out.

Ayrshires.

You can have no hardier Roses than the Ayrshires, which are forms of *Rosa repens capreolata* (the National, by the way, sticks to the old name, now considered merely a synonym, *Arvensis*). The Ayrshires grow well on walls, arbours, and old trees. They bloom in clusters. Bennett's Seedling, often grown under the name of Thoresbyana, a white, is perhaps the best known nowadays, but the old pink-edged Dundee Rambler is not forgotten. The Ayrshires must be very little pruned. Thinning out old flowered wood is all that is necessary.

Banksians.

There are two well-known Banksian Roses, the White, Banksia, and the Yellow. They are strong growers, given a warm, sheltered wall, but have very small double flowers. No hard cutting back, if you please, for the Banksians. Do it, and you get no flowers. Thin, certainly.

Bourbons.

Where do the Bourbons begin, where do they end? When we learn that the Bourbon Rose is *Rosa indica borbonica*, a variety of the China or Monthly Rose, we only learn half the story. There is Bourbon blood in the Hybrid Perpetuals, without a doubt. The section can never be unimportant while it contains the dear old Souvenir de la Malmaison, with its wealth of silvery flowers. Then there is Madame Isaac Pereire; and, if we stretch a point in a sort of go-as-you-please business, there are the pretty Blairii No. 2, a rare old climber, and Charles Lawson, grandest of "specimen" Roses. Best of all, perhaps, there is Bardou Job, which is flowering gloriously on the wall of my house at this moment. The National catalogue makes a H.T. of him. Bardou Job is a very rich Rose, only semi-double, but a wonderful bloomer.

Boursaults.

A small class, no use for exhibition, but good for growing on walls, where they give barrowloads of flowers. Think of Amadis, crimson, and of Gracilis, pink. Thin the wood, no more.

Briers (Penzance).

With what marvellous patience Lord Penzance must have worked to evolve these from the Sweet Brier, *Rosa rubiginosa*!

Their first beauty is in early summer, when the lovely single flowers clothe the perfumed pillar of growth from top to bottom ; their second in autumn, when the hews have ripened, and taken on brilliant hues.

I have referred to the Penzance Briers under pruning ; let me now tell of a few lovely varieties in my collection. Here they are :—

Amy Rebsart, pink, a charming variety, very fresh and sweet.

Anne of Geierstein, rose, one of the dwarfest as I have it ; very free.

Flora McIvor, pink, a very beautiful Brier.

Lady Penzance, salmon pink (coppery pink by the National list), very early.

Lord Penzance, white, deepening to buff or fawn, very early.

Lucy Ashton, rose, a free, bright, and handsome variety.

Lucy Bertram, rich rose, wonderfully free, the queen of them all.

Meg Merrilies, pink, a very good Brier.

Rose Bradwardine, pink, fragrant and free.

There are others to be had besides these ; get them all. Grow them, if no better way presents itself, in a bed, each with a trio of stakes and a square yard of well trenched, well fed ground.

China or Monthly.

Varieties, these, of *Rosa indica*, the blood of which flows through the veins of our noble Hybrid Perpetuals. There are some old favourites amongst them, to wit, the Old Blush (common Monthly), Mrs. Bosanquet, and Fellenberg, the last one of the finest of bedding Roses, as Kew teaches us. Amongst more modern favourites are Laurette Messimy, rose and yellow, semi-double ; and Madame Eugène Résal, rose, shaded with orange. Thinning, and a moderate shortening of soft, unripe wood in spring, does for these.

Evergreens.

The Evergreens, varieties of *Rosa sempervirens*, are all very hardy and strong-growing Roses, well suited for covering walls where choicer, though less hardy, varieties will not thrive. *Félicité Perpétue*, creamy white, may be taken as representative of the class. Little pruning is wanted.

French.

A small class, of more interest than importance. It gives us *Rosa Mundi* (Village Maid), with its pretty striped flowers, and the York and Lancaster, which is often confounded with *Rosa Mundi*, although it is not always striped.

"Garden" Roses.

The National catalogue has two great classes : (1) Exhibition Roses ; (2) Garden Roses. The sub-sections of the latter are very numerous, and include most of those named above, together with many others. The truth is, "garden" Roses is a



FIG. 48.—COOLING'S YELLOW NOISETTE, A BEAUTIFUL GARDEN ROSE.

very elastic term, for it practically embraces all except the florists' varieties seen on the showboard, and even some of them are in the best sense of the term garden as well as exhibition Roses.

Every Rose is a "garden" Rose, in the broad meaning of the term as it is used now, which is many flowered, or cluster



FIG. 49.—*SOUVENIR DE CATHERINE GUILLOT*, ANOTHER CHARMING GARDEN ROSE.

flowered, or good for bedding or rambling, or in any sense whatever decorative. From this point of view Cooling's Yellow Noisette (p. 105) is a "garden" Rose, so is *Souvenir de Catherine Guillot*, so are *Bellefleur* (p. 107), *Claire Jacquier* (p. 108), and, indeed, any and every sort that serves a distinct decorative rather than a show purpose.



Photo: Cassell & Company, Ltd.

FIG. 50.—BELLEFLEUR.



Photo: Cassell & Company, Ltd.

FIG. 51.—CLAIRE JACQUIER.



Photo; Cassell & Company, Ltd.

FIG. 52.—HELEN KELLER.

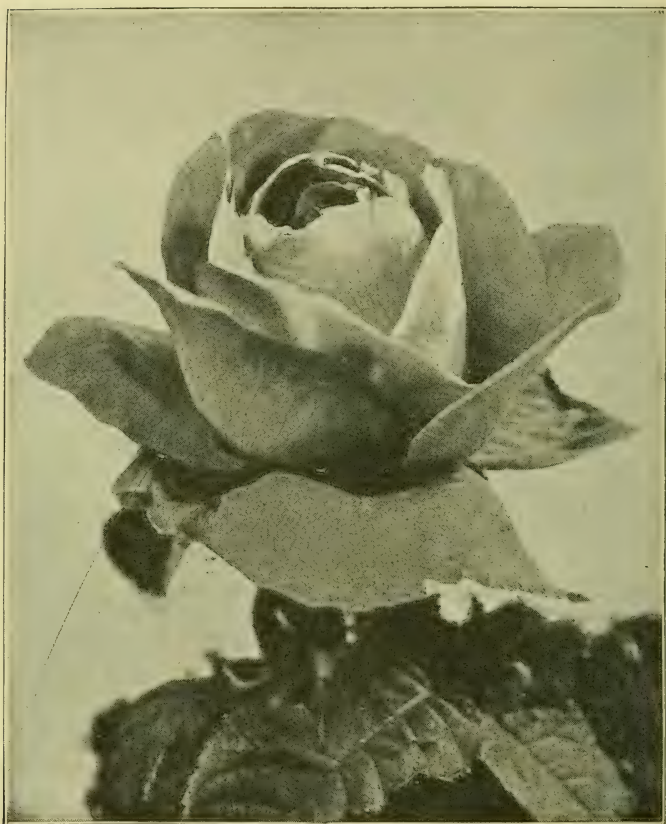


Photo : Cassell & Company, Ltd.

FIG. 53.—ULRICH BRUNNER.

Hybrid Perpetuals.

In this we have the greatest of all classes. Its origin is "wropt in mistry." As mentioned in Chapter 4, there has been a great deal of in-and-out cross-breeding, several species, or hybrids between species, having been drawn upon by raisers. Hybrid Perpetuals give us by far the largest proportion of show



Photo : Cassell & Company, Ltd.

FIG. 54.—FRANÇOIS MICHELON.

Roses, and also some of the most valuable of garden Roses. The following selections may be useful :—

Thirty H.P.'s for Exhibition—

Abel Carrière, maroon, shaded purple.
 Alfred Colomb, rich red.
 A. K. Williams, carmine.
 Camille Bernardin, light crimson.
 Captain Hayward, crimson.

Comte de Raimbaud, purplish crimson.
 Duchesse de Morny, silvery.
 Duchess of Bedford, crimson.
 Duke of Wellington, crimson.
 Dupuy Jamain, cerise.

Thirty H.P.'s for Exhibition (continued)—

Earl of Dufferin, maroon.	Margaret Dickson, white.
Etienne Levet, carmine.	Marie Baumann, bright red.
François Michelon, rose (<i>see p. 111</i>).	Merveille de Lyon, white.
Gustave Piganeau, carmine lake.	Mrs. John Laing, pink.
Helen Keller, rosy cerise (<i>see p. 109</i>).	Mrs. R. G. Sharman Crawford, rose.
Her Majesty, rose.	Prince Arthur, crimson.
Horace Vernet, crimson.	Suzanne Marie Rodocanachi, pink.
Madame Eugène Verdier, rose.	Tom Wood, brownish red.
Madame Gabriel Luizet, silvery.	Ulrich Brunner, cherry (<i>see p. 110</i>).
Marchioness of Londonderry, ivory.	Victor Hugo, crimson.

Twelve Good Garden H.P.'s—

Baroness Rothschild, pink, scentless.	Madame Victor Verdier, light crimson.
Charles Lefebvre, scarlet crimson.	Merveille de Lyon, white.
John Hopper, rose.	Mrs. John Laing, pink.
Général Jacqueminot, scarlet crimson.	Prince Camille de Rohan, maroon.
Jeannie Dickson, silvery rose.	Sénateur Vaisse, crimson.
Madame Gabriel Luizet, pink.	Ulrich Brunner, cherry.

Hybrid Teas.

This is practically a new class, although one or two oldish Roses, notably Captain Christy and La France, are included in it. The section grows yearly in numbers and importance. It is remarkable for deep, conical or globular flowers, which possess the delicate colouring of the Teas.

The H.T.'s give us several of our best show Roses, and likewise a few varieties which, on account of their vigorous growth and free flowering, are grand garden sorts.

Twelve H.T.'s for Exhibition—

Bessie Brown, cream (<i>see p. 113</i>).	Killarney, soft pink.
Caroline Testout, salmon pink.	Lady Mary Fitzwilliam, flesh.
Clara Watson, rose.	Marquise Litta, carmine rose.
Gladys Harkness, pink.	Mildred Grant, white.
Kaiserin Augusta Victoria, pale yellow.	Mrs. W. J. Grant, pink (<i>see p. 117</i>).
Lady Battersea, cerise (<i>see p. 114</i>).	White Lady, cream.

Sixteen H.T.'s for the Garden—

Antoine Rivoire, pink.	La France, silvery pink (<i>see p. 115</i>).
Captain Christy, flesh.	Liberty, crimson (<i>see p. 116</i>).
Caroline Testout, salmon pink.	Madame Abel Chatenay, rose.
Clara Watson, rose.	Madame Cadeau Ramey, deep flesh.
Grace Darling, cream.	Madame Jules Grolez, rose.
Gustave Regis, yellow.	Madame Pernet Ducher, lemon.
Kaiserin Augusta Victoria, pale yellow.	Marquise de Salisbury, crimson.
Killarney, soft pink.	Mrs. W. J. Grant, pink.

Miniature Provence.

A small but useful class, dwarf growers, and with rosette-like flowers. De Meaux, rosy lilac, and White De Meaux, white with a faint tint of pink, are perhaps the most popular.

Moss.

Old favourites, forms of *Rosa centifolia muscosa*. There
(*Continued on page 118.*)



Photo: Cassell & Company, Ltd.

FIG. 55. - H.T. BESSIE BROWN.

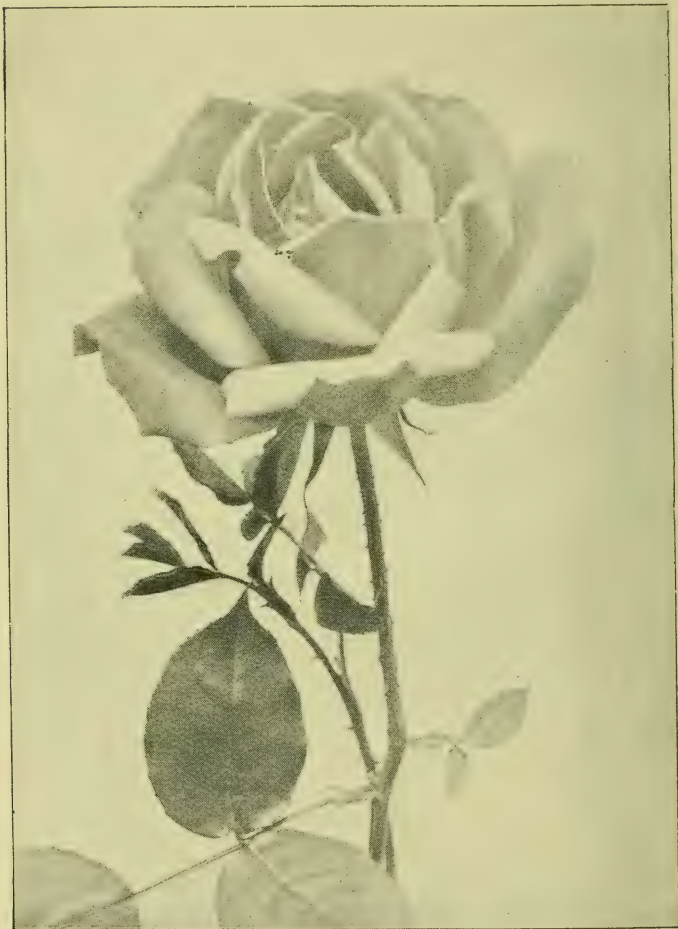


Photo : Cassell & Company, Ltd.

FIG. 56.—H.T. LADY BATTERSEA.



FIG. 57. H.T. LA FRANCE.

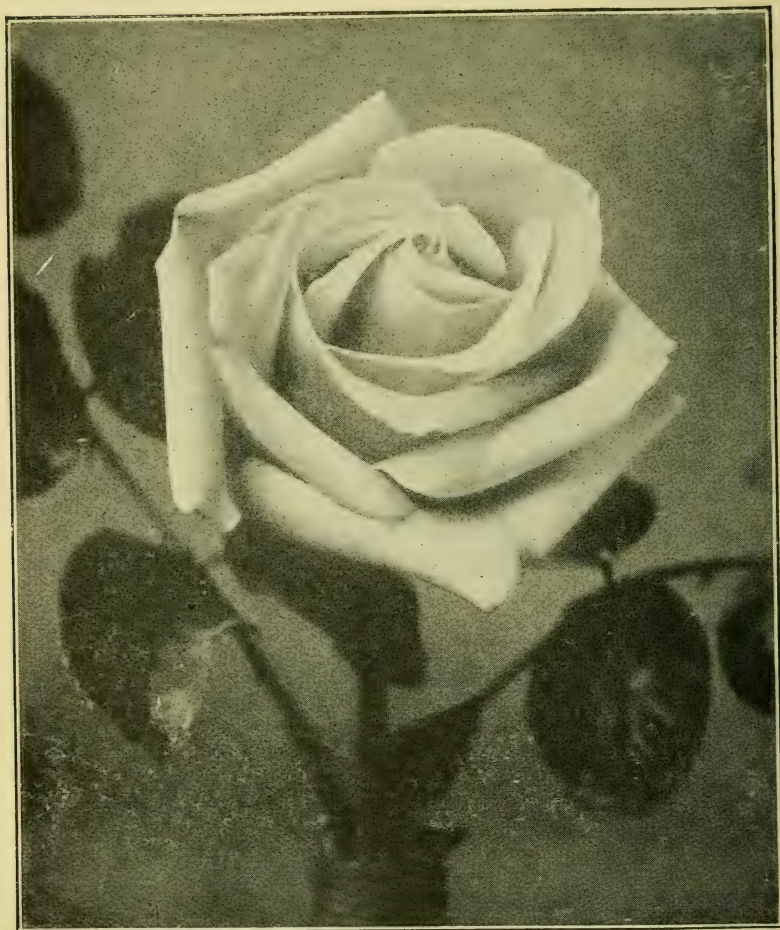


Photo: Cassell & Company, Ltd.

FIG. 53.—H.T. LIBERTY.

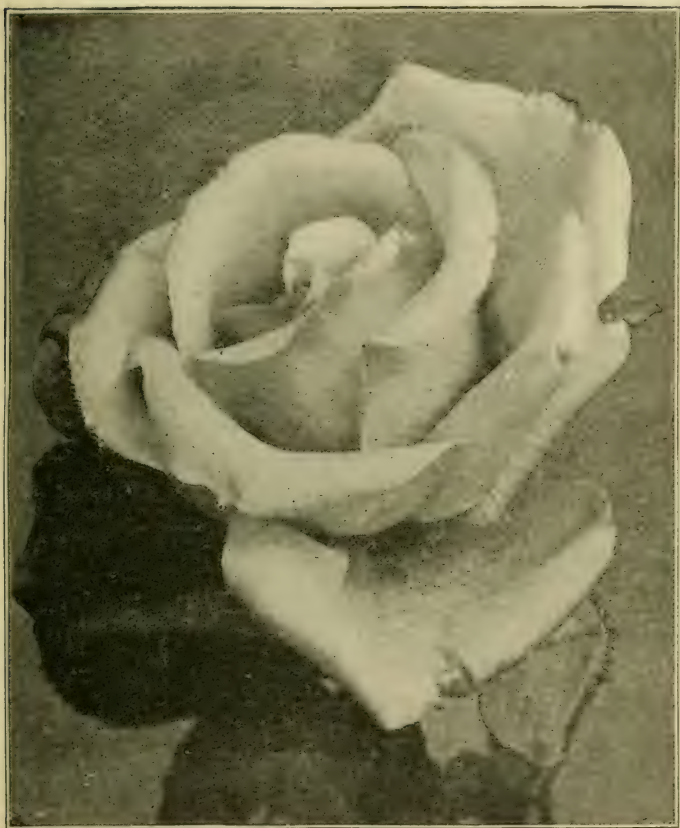


Photo: Cassell & Company, Ltd.

FIG. 59.—H.T. MRS. W. J. GRANT.

(Continued from page 112.)

are many varieties, from among which the following may be chosen :—

Baron de Wassenæër, light crimson.
 Blanche Moreau, white.
 Céline, purplish crimson.

Crested, rose.
 Gloire des Mousseuses, deep blush.
 Laneii, rosy crimson.

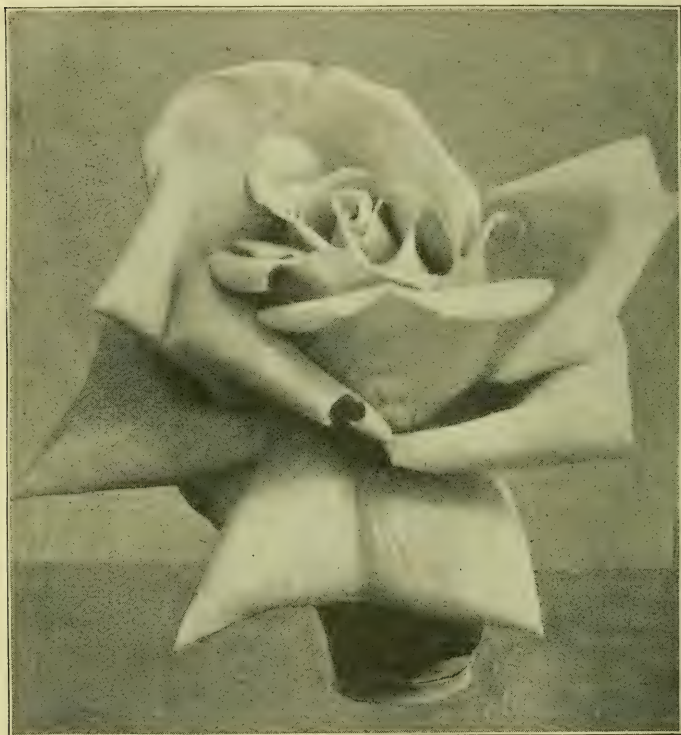


Photo : Cassell & Company, Ltd.

FIG. 60.—T. BRIDESMAID.

Musk.

A very small and unimportant class. Fringed, white, and Princesse de Nassau, cream, may be selected.

Polyantha.

The Polyantha Roses (descendants of *Rosa multiflora*) were until recent years a comparatively unimportant section, but

the introduction of Crimson Rambler and its sister varieties has raised it to a much higher standard. The following are selections :—

Climbing Polyantha—

Aglaia, pale yellow.

Carmine Pillar, carmine (*see p. 121*).

Claire Jacquier, nankeen yellow.

Crimson Rambler, crimson.



FIG. 61.—T. CATHERINE MERMET.

Electra, yellow.

Euphrosyne, pale pink.

Dwarf Polyantha—

Anna Maria de Montravel, white.

Clothilde Soupert, white, shaded pink.

Little Dot, pink.

Leuchtstern, rose (*see p. 120*).

Thalia, white.

Ma Paquerette, white.

Mignonette, rose.

White Pet, white.



Photo : Cassell & Company, Ltd.

FIG. 62.—POLYANTHA LEUCHTSTERN.

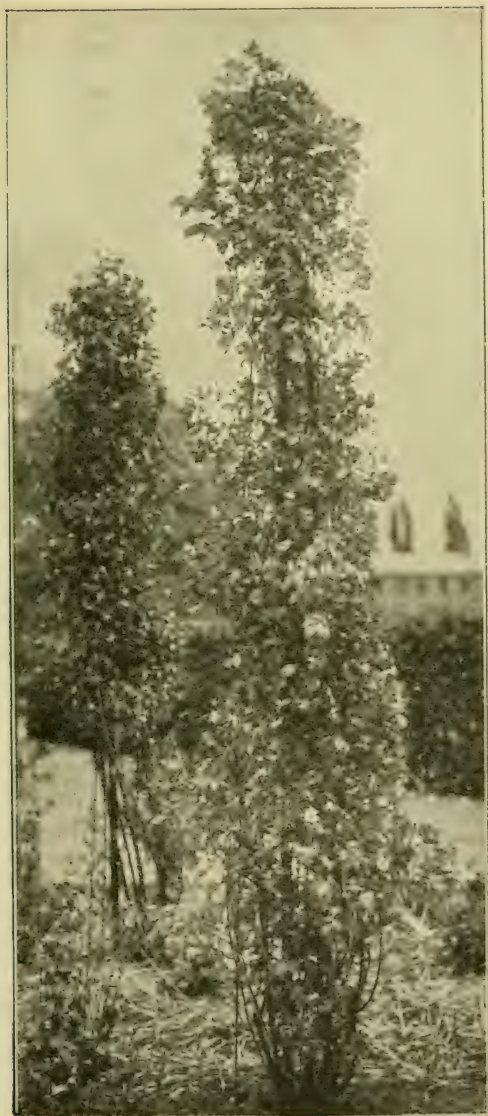


Photo : Cassell & Company, Ltd.

FIG. 63.—POLYANTHA CARMINE PILLAR.

Provence.

The Cabbage Rose is grown in a few gardens to this day, but modern varieties are squeezing it out of existence.

Teas and Noisettes.

This great class—great in numbers, great in beauty—is second only to the Hybrid Perpetuals. Nay, is it second?



FIG. 64.—T INNOCENTE PIROLA.

A little tender some of the varieties may be, but withal they eclipse the H.P.'s as garden Roses because of their wonderful persistency of bloom. When well grown they are rarely out of flower from June to November, and the flowers they yield are charming for cutting in general and for buttonholes in particular.

(Continued on page 126.)



Photo: Cassell & Company, Ltd.

FIG. 65.—T. MAMAN COCHET.

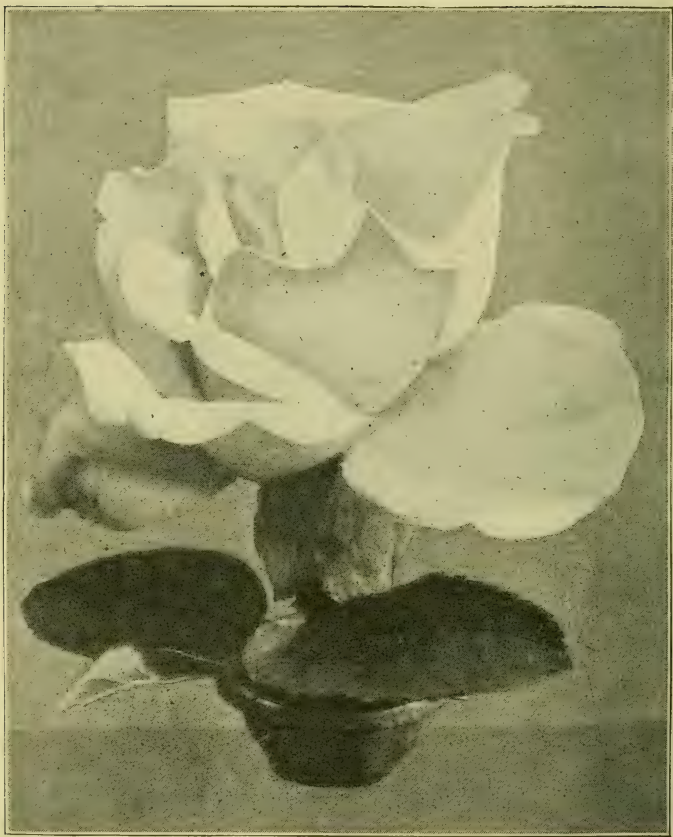


Photo : Cassell & Company, Ltd.

FIG. 66.—T. MURIEL GRAHAME.

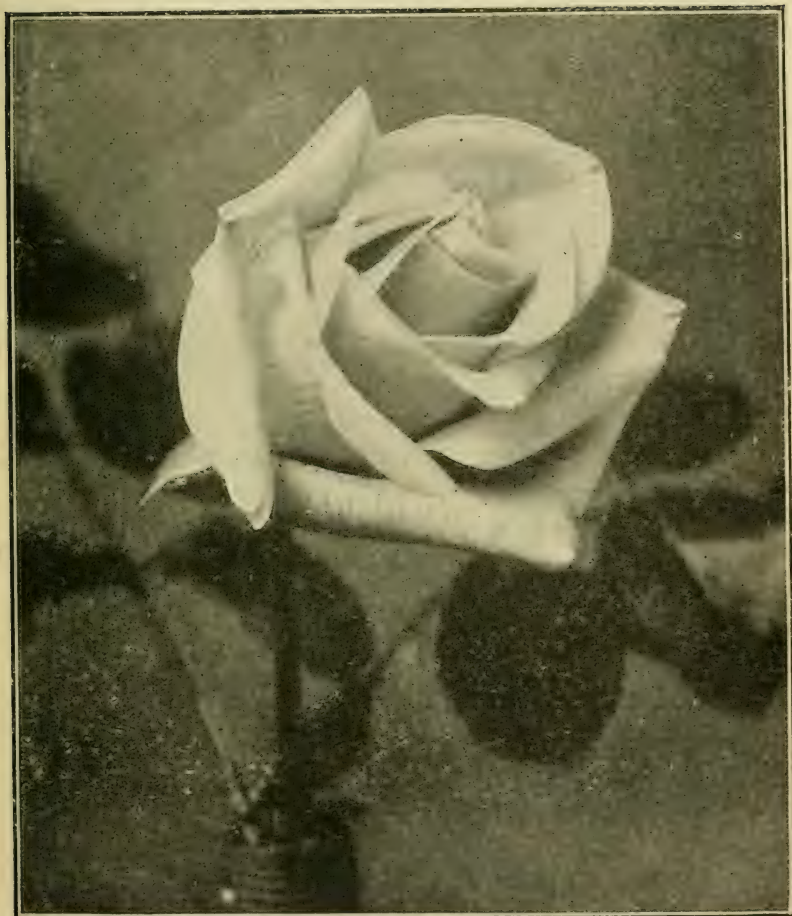


Photo : Cassell & Company, Ltd.

FIG. 67.—T. SYLPH.

The question of tenderness has its weight, but if soil is drawn well up round the collars in autumn, and litter is thrust among the branches in frosty weather, little damage is done.

The Teas and Noisettes give us some of our most valuable climbing Roses; note Climbing Niphetos and Maréchal Niel. The following are selections:—

Eighteen Teas for Exhibition—

Bridesmaid, pink (*see p. 118*).
Catherine Mermet, light rose (*see p. 119*).
Cleopatra, pink.
Comtesse de Nadaillac, flesh.
Ethel Brownlow, rosy flesh.
Madame Cusin, deep rose.
Madame de Watteville, cream, rose edge.
Madame Hoste, yellow.
Maman Cochet, carmine, salmon shading.

Maréchal Niel (N.), yellow.
Marie van Houtte, yellow, edged rose.
Mrs. Edward Mawley, pink.
Muriel Grahame, cream and rose (*see p. 124*).
Niphetos, white.
Souvenir d'Elise Vardon, white, tinted.
Souvenir de S. A. Prince, white.
The Bride, white.
White Maman Cochet, white, tinted.

Twenty-five Teas for the Garden—

Aimée Vibert (N.), white, climbing
Alister Stella Gray (N.), yellow, climbing.
Anna Olivier, white or buff.
Caroline Kuster, lemon.
Francisca Krüger, deep yellow.
Gloire de Dijon, buff, climbing.
Homère, rose.
Hon. Edith Gifford, white.
Innocente Pirola, cream (*see p. 122*).
Jean Ducher, salmon.
L'Idéale (N.), bronzy yellow.
Luciole, pink, shaded cream.
Madame Chédane Guinoisseau, yellow.

Madame Hoste, yellow.
Maman Cochet, carmine, salmon shading (*see p. 123*).
Maréchal Niel (N.), yellow.
Marie van Houtte, yellow, edged rose.
Perle des Jardins, straw.
Souvenir de J. B. Guillot, salmon, shaded orange.
Souvenir de S. A. Prince, white.
Sulphurea, cream (*see p. 130*).
Sylph, white, tinted peach (*see p. 125*).
The Bride, white. [*see p. 127*].
White Maman Cochet, white, tinted
William Allen Richardson (N.), copper.

A Selection of Climbing Roses.

Aimée Vibert, white.
Bardou Job, crimson.
Bouquet d'Or, yellow.
Cheshunt Hybrid, cherry.
Climbing Captain Christy, flesh.

Gloire de Dijon, buff (*see p. 128*)
Maréchal Niel, yellow.
Reine Marie Henriette, red.
Reine Olga de Wurtemberg, red.
William Allen Richardson, copper.

For Large Bushes or Hedges.

Rugosa alba, single white.
Rugosa Blanche Double de Coubert, semi-double white.

Rugosa Mrs. Anthony Waterer, semi-double red.

For Trailing over Banks.

Pink Roamer, pink.

Wichuraiana, white.

For Bedding.

Augustine Guinoisseau, blush (H.T.).
Caroline Testout, pink (H.T.).
Dr. Grill, copper (T.).
Fellenberg, pink (China).
Francisca Krüger, copper (T.).

Général Jacqueminot, scarlet crimson (H.P.).
Grace Darling, cream (H.T.).
Grüss an Teplitz, scarlet (T.).
Gustave Regis, yellow (H.T.).

(Continued on page 131.)

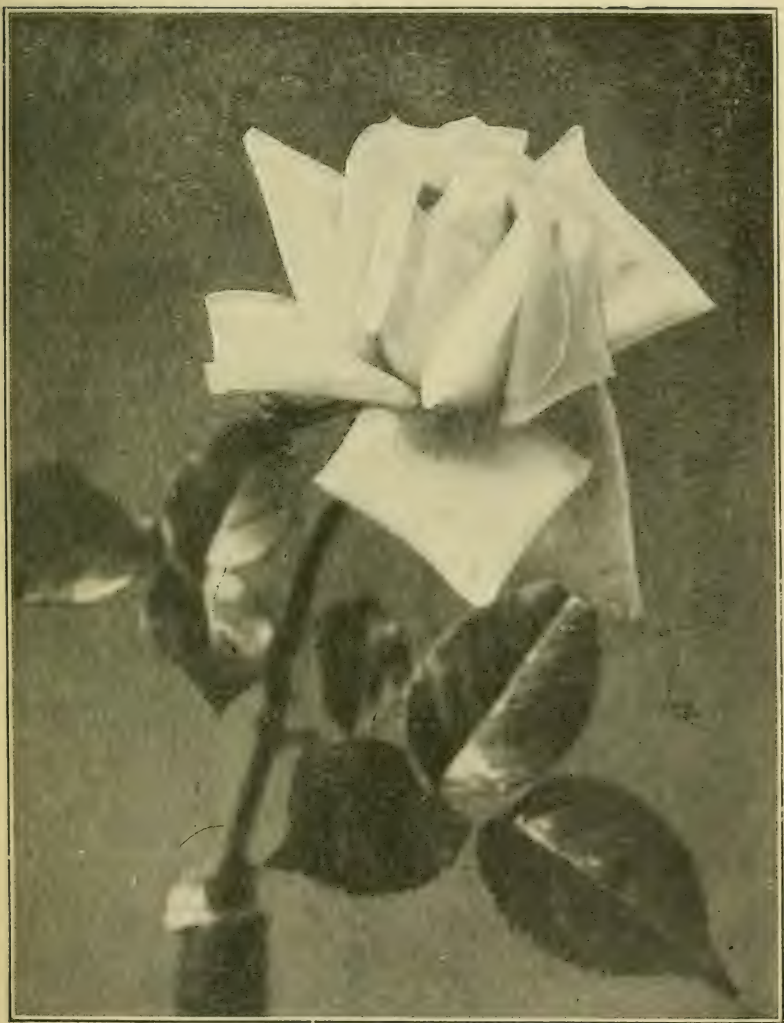


Photo: Cassell & Company, Ltd.

FIG. 68.—T. WHITE MAMAN COCHET

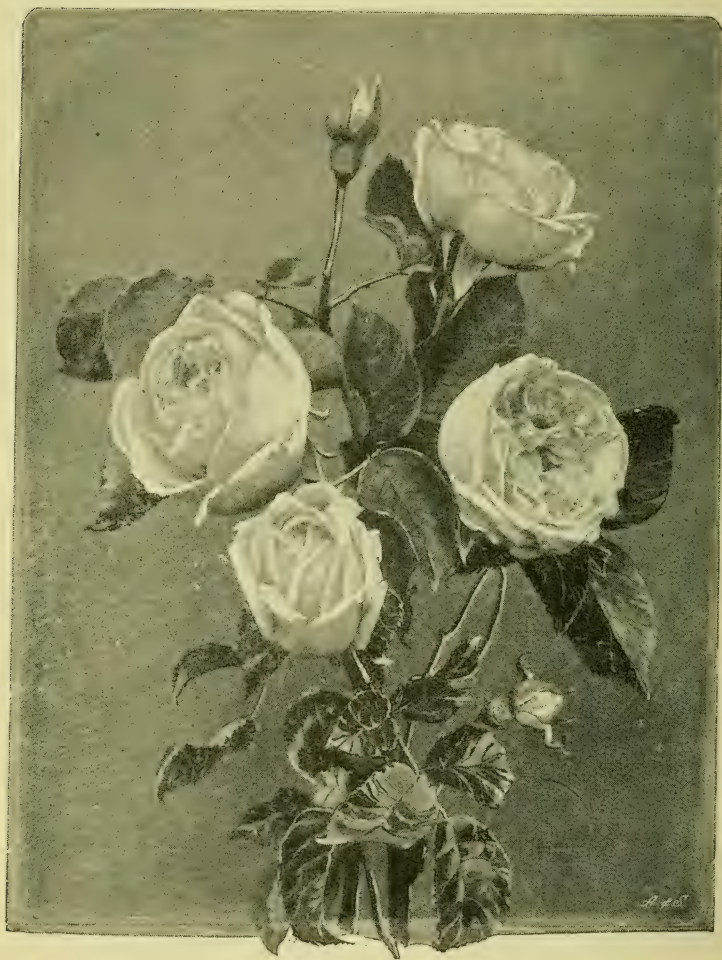


FIG. 69.--T. GLOIRE DE DIJON.



Photo: Cassell & Company, Ltd.

FIG. 70 - HIMALAYICA.



Photo : Cassell & Company, Ltd.

FIG. 71.—SULPHUREA, CREAMY WHITE WITH CENTRAL TUFT OF GOLDEN ANTHERS.

(Bedding Roses, continued from page 126.)

Hon. Edith Gifford, white (T.).
 Kaiserin Augusta Victoria, pale yellow
 (H.T.).
 Liberty, crimson (H.T.).
 La France, silvery pink (H.T.).
 Madame Abel Chatenay, rose (H.T.).

Madame Jules Grolez, rose (H.T.).
 Marie van Houtte, yellow, tinted rose
 (T.).
 Marquise de Salisbury, crimson (H.T.).
 Mrs. John Laing, pink (H.P.).
 Mrs. W. J. Grant, pink (H.T.).



FIG. 72.—MOSS ROSES.

For Arches and Pillars.

Aglaia, creamy white.
 Bardou Job, crimson.
 Carmine Pillar, carmine.
 Crimson Rambler, crimson
 Euphrosyne, pink.

Himalayica, white (*see p. 129*).
 Longworth Rambler, light red.
 Reine Olga de Wurtemberg, red.
 Thalia, white.

For Pots.

Anna Olivier (T.).
 Bridesmaid (T.).
 Captain Hayward (H.P.).
 Caroline Testout (H.T.).
 Catherine Mermet (T.).
 Général Jacqueminot (H.P.).
 La France (H.T.).
 Madame Hoste (T.).

Madame Montet (H.P.).
 Marie van Houtte (T.).
 Mrs. John Laing (H.P.).
 Mrs. R. G. Sharman Crawford (H.P.).
 Mrs. W. J. Grant (H.T.).
 Niphetos, (T.).
 The Bride (T.).

For Standards.

Baroness Rothschild.
 Caroline Testout.
 Duke of Edinburgh.
 Général Jacqueminot.
 La France.
 Madame Gabriel Luizet.
 Maman Cochet.

Marie van Houtte.
 Mrs. John Laing.
 Mrs. R. G. Sharman Crawford.
 Souvenir de S. A. Prince.
 Ulrich Brunner.
 Viscountess Folkestone.

For Hedges.

Rugosa varieties.

Scotch.

Sweet Briers.

Chapter 14.—Interesting Features of Rose Gardens.

THE Rose garden of rectangular beds is as much the joy of many Rose growers as ever it was, but the Rose garden of varied and picturesque features is growing rapidly in favour.

There is no need to extol the one at the expense of the other. They have to be regarded from totally different standpoints. For the exhibitor, who wishes to grow a limited number of very fine flowers, a series of rectangles, affording facilities for the ready inspection of every plant—nay, of every stem and leaf—and for rapid, straightforward cultural operations, are convenient and suitable. For the decorative gardener beds of various shapes, banks, arches, hedges, and pergolas are necessary to get the desired effects.

Variety of treatment adds immensely to the interest and beauty of Rose gardens. It gets the grower a little closer to Nature. True, she does not decorate her demesne with galvanised wire arches at four and sixpence apiece, and it is greatly to be feared that many evil deeds are perpetrated by the "natural" gardener. But Roses sprawling along a pergola certainly have a more natural appearance than a parallelogram of standards.

Arbours.

Rose arbours exist in various degrees of offensiveness. The old type of arbour was an expensive and ornate structure of carved metal (Fig. 73). It was supposed to be covered, of course, but somehow it always showed more metal than Roses. An arbour of knotted, gnarled stems, or even a light construc-

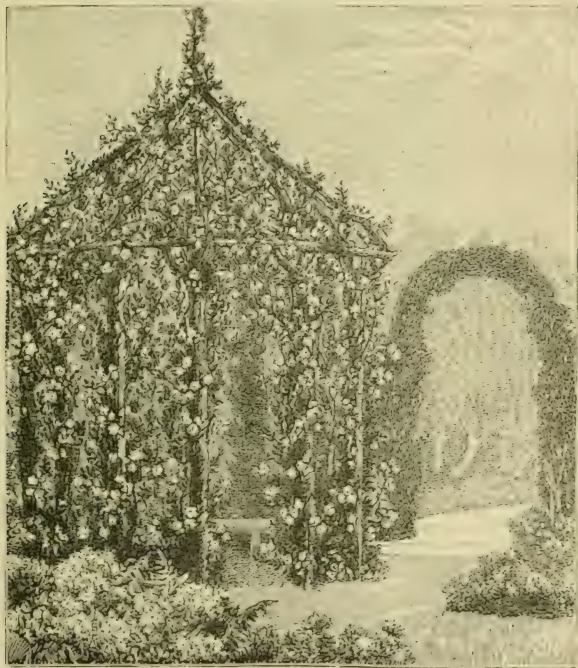


FIG. 73.—ROSE ARBOURS, OLD STYLE.

tion of poles, is better, if merit is judged, as it should be, by the nearness with which the object in view is approached. It is not likely that metal will ever be absolutely driven out of the Rose garden, but the less it is allowed to triumph over wood the nearer to nature the Rose garden will get.

As mentioned briefly in a previous chapter, a simple way of lengthening the duration of wooden supports is to pickle the base in a bath of creosote. Or they may be painted with

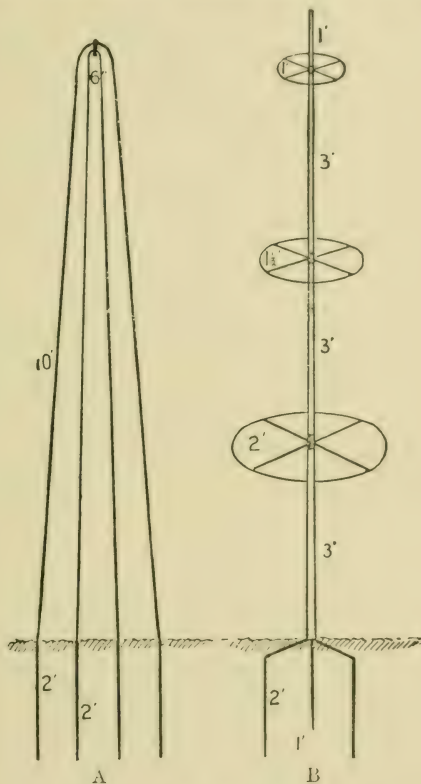


Photo : Cassell & Company, Ltd.

FIG. 74.—ROSE ARBOURS, NEW STYLE.

FIG. 75.—SUPPORTS FOR PILLAR ROSES.

The two diagrams given are most useful for pillar Roses.



A is made of $\frac{3}{4}$ -inch iron rod. It should be constructed in four pieces, and bolted together at the top.

B, the upright should if possible be tapering—1 inch at the bottom, diminishing to $\frac{1}{2}$ -inch at the top; this gives more support. The rings and stays should be of $\frac{1}{2}$ -inch iron.

Stockholm tar thinned with petroleum, or with gas tar. The simplest plan of all, however, is to char them.

Arches.

The wire arch rides rampant in suburban gardens, largely because it is so much quicker and easier to go to the ironmonger's than to hunt the neighbourhood for stems and poles. Yet a little trouble is often rewarded. Country builders frequently have stems and boles on the premises, and a casual visit is repaid by the acquisition of a useful collection of supports. A couple of stout stems fixed opposite to each other, and spanned, in an informal sort of way, by smaller pieces, constitute a far better framework for an arch, in the estimation of artistic people, than an ironmonger's erection of galvanised wire.

If galvanised wire arches are employed—and they are unquestionably convenient for town and suburban gardens—the cheapest qualities should be tabooed, as they are frequently “galvanised” very lightly, and if the metal is exposed the atmospheric acid causes a chemical action, which may act, and in many cases has acted, prejudicially to the plants. The arches should be handled carefully. If thrown about and bruised, the metal is exposed at once.

The arch is the first resource of the gardener who aims at interesting effects. Many Roses do extremely well on arches, and in view of the selections given in the previous chapter it is unnecessary to specify them here. But the arch must not be the only departure from the rectangles of beds, as it threatens to be now.

Banks.

In the chapter on soil preparation a method of cultivation was indicated which renders it easy to perform well a task which is often done with a great deal of labour, and then badly. It may now be pointed out that a well-arranged bank of Roses is capable of giving a very valuable effect in a garden. Pegged-down Roses, pruned and managed in the way previously advised, may be utilised to clothe banks. Or the free-flowering species and “garden” varieties may be utilised in bold masses, as at Kew.

If a complete design is wanted for a bank with a gentle slope, Fig. 76 (*p.* 137), may be copied. Here there is an opening for a pretty set of beds. No. 1 might be made to form a charming centrepiece by inserting rough stems and planting Crimson Rambler, Bardou Job, or other selected climbers to cover them. Nos. 2 to 8 may be dwarfs, Nos. 9, 11, and 13 pegged-down plants, and Nos. 10, 12, and 14 occupied by stumps for Roses to ramble over. This is merely a suggestion. The plan might be varied to suit individual taste.

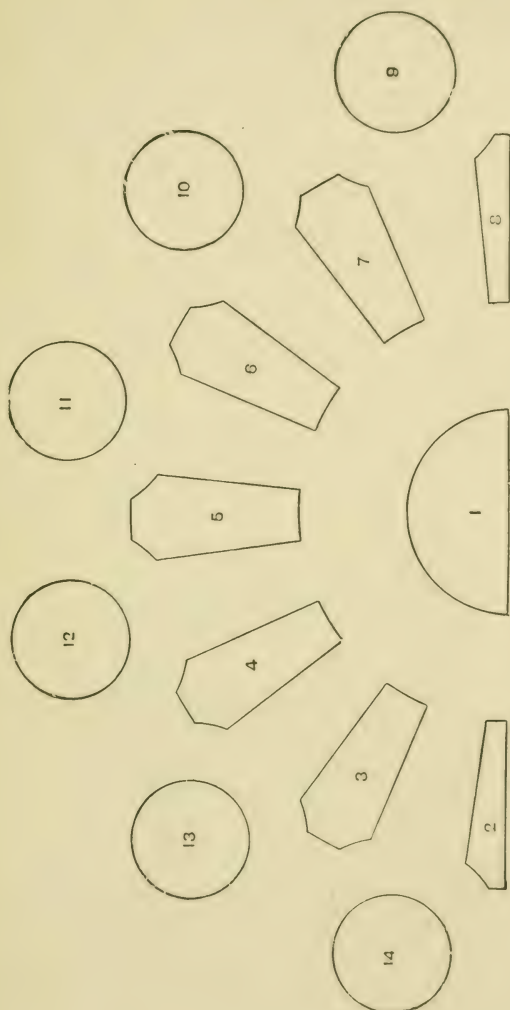


FIG. 76.—A ROSE GARDEN UPON A BANK.

Hedges and Screens.

The culture of the Sweet Brier, and also of the Scotch Rose, to form hedges has been described in Chapter 11. It may, however, be noted that a "hedge" may be made of almost

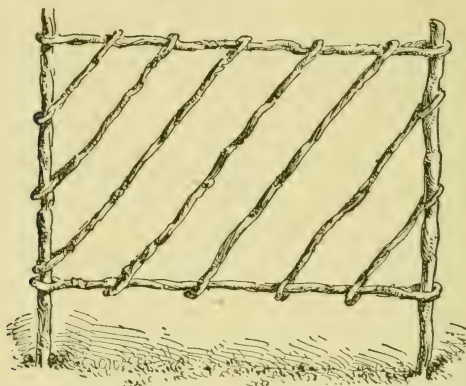


FIG. 77.—A HOME-MADE HURDLE FOR A ROSE HEDGE.



FIG. 78.—THE HURDLE COVERED.

any of the free-growing, rambling varieties. Fig 77 shows a rough hurdle, such as is used by Dean Hole, and Fig. 78 shows it covered with foliage and flowers. Where a screen is wanted a "hedge" of this nature serves admirably.

Pergolas.

A pergola might be described as a series of connected arches, were it not for the fact that many pergolas are flat.

There is nothing more beautiful in a garden than a well-made and well-covered pergola. If space and material permit of its being made 50 yards long or more, a great array of lovely Roses may be grown on it; but even if short it may be made exceedingly attractive.

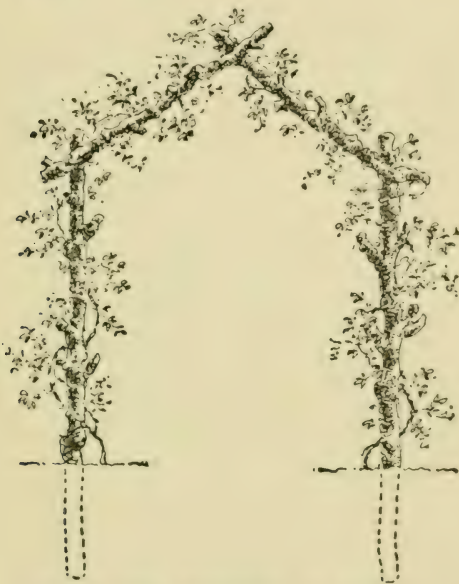


FIG. 79.—END ELEVATION OF PERGOLA.

Although there is such a thing as a metal pergola, a wooden structure is far more ornamental. Rough stems of various thicknesses are desirable. The base of the uprights should be creosoted, tarred, or charred, and they should be inserted about 4 feet apart, but a variation either way is not essential so long as the structure is made thoroughly strong and steady. The same consideration governs the depth at which the posts are put in: 2 to 2½ feet is about right.

A flat pergola is at least as expensive as an arched one, perhaps more so, because it is necessary to carry the posts, which are the most costly, up to a height of 8 feet. If the

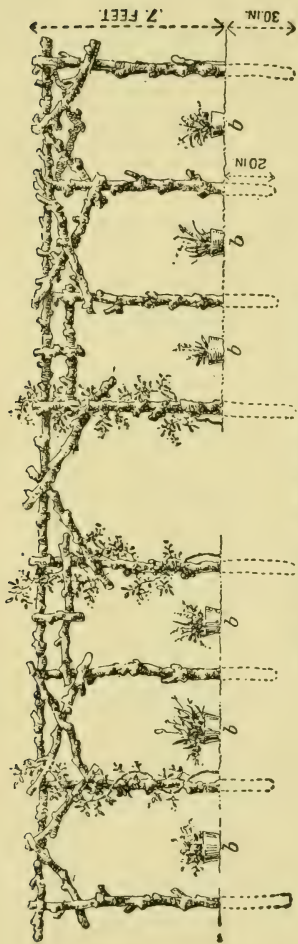


FIG. 80.—SIDE ELEVATION OF PERGOLA.



FIG. 81.—GROUND PLAN OF PERGOLA.

pergola is arched, shorter and cheaper posts may be used, and the arches constructed of light, inexpensive material. The width must depend upon the wishes of the owner: 6 to 7 feet is very suitable.



Photo: Cassell & Company, Ltd

FIG. 82.—A ROSE UMBRELLA (*see p. 142*).

Fig. 80 (*p. 140*) shows the side elevation of a pergola, with pots, boxes, or vases in the spaces (*b*) for the various plants employed. If, however, the pergola is to be covered entirely with Roses, they had better be planted out; and if a trenched, well-manured station is prepared for each success is assured

Fig. 79 (*p.* 139) shows the end elevation, and Fig. 81 (*p.* 140) the ground plan. In the latter *a* represents the posts, and *b* the boxes or vases, if such are employed.

If it is impossible to get stems and posts in sufficient quantity, a pergola may be constructed by setting ironmonger's wire arches 5 feet apart and bracing them with $\frac{1}{4}$ -inch parallel horizontal wires, one at the top, one at the centre, and one near the ground. Rigidity may be imparted to the structure by fixing uprights of gas-main pipes at every 6 feet. When well covered with growths this is not unsightly.

Tree Stumps.

Tree stumps, short or long, look well when clothed with Roses. An old, weather-worn tree which is condemned may be so far spared that only the upper parts are cut away, the bole, and perhaps the principal fork, being left.

Trellises.

The expanding wooden trelliswork of the suburban garden makes a comfortable home for Roses. Screwed on to uprights 4 feet apart, provided with a top beading, and painted green, it makes an admirable screen. This trelliswork is very cheap and convenient. Varieties like Bardou Job, Alister Stella Gray, and Homère are quite at home on it.

Umbrellas.

Rose umbrellas are easily provided, given a wire standard surmounted by a circular wire framework. When well covered these are handsome objects (see Fig. 82, *p.* 141).



Photo: Cassell & Company Ltd

FIG. 83.—TEA ROSES IN A VASE

Chapter 15.—Roses as Cut Flowers.

THE lover of cut Roses is catered for these latter days as he or she never was before. Big fragrant bowls of the old H.P.'s were not to be despised, but they were generally lumpy, unless arranged with exceptional skill. Moreover, their season was limited. The newer Teas and H.T.'s, with their neat flowers, long stems, and beautiful leafage, are in season out of doors for seven or eight months, so that a long supply is at command.

Little art is required to get beautiful effects with these, unless it be the art which holds the master key to simplicity. Broadly speaking, the more simple the arrangement the better. As a matter of fact, a few long sprays placed loosely in a vase look charming.

It goes without saying, perhaps, that nothing but Rose foliage should be used with Rose flowers. Fern, Asparagus, Gypsophila, and such like "greenery" has its uses, but it is not wanted with Roses.

There is nothing to beat a vase lightly filled with sprays of one variety, intermingled with its own leafage (Fig. 83, *p.* 143). Bamboo supports, with orifices at different heights (Fig. 84, *p.* 145), are suitable for some purposes and positions. They are frequently exhibited at horticultural shows.

Table decorations entirely composed of Roses are sometimes seen, and the fact that simplicity can well hold its own with elaboration is proved by a reference to Figs. 85 (*p.* 146) and 86 (*p.* 147). The former is a good sample of an elaborate table arrangement, with its large centre bowl and series of glass dishes, these being furnished with different varieties of Roses. The latter consists simply of *Rosa Himalayica* in a small bowl and side vases.

Baskets of Roses are frequently object lessons of the painful results of sardine-packing. Large H.P.'s want arranging with great self-restraint, otherwise there is a dead level of ugly blown flowers staring one in the face. The buds and leafage are the best. A trail of *Smilax* or small-leaved Ivy is permissible for the handle, but even this extraneous substance may be done away with if the bronzy growths of the Roses are handled with skill.



Photo: Cassell & Company, Ltd.

FIG. 84.—TEA ROSE SUNRISE IN A BAMBOO SUPPORT.

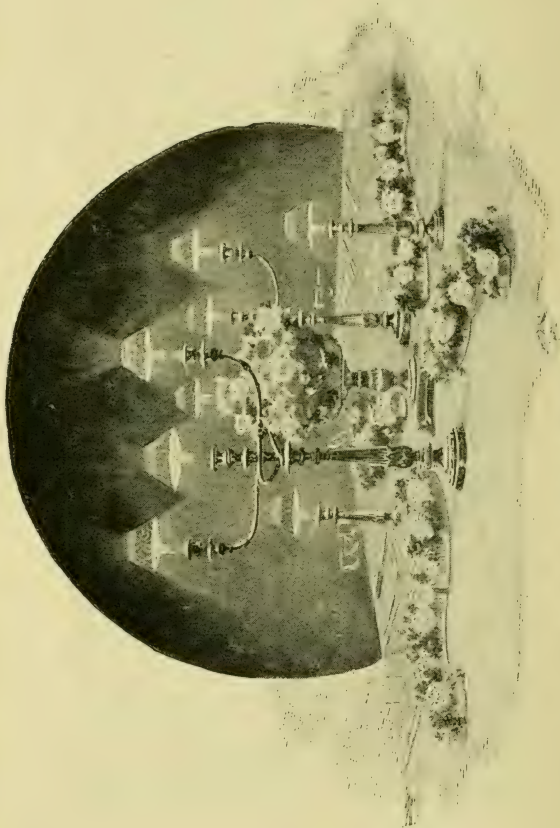


FIG. 85.—A TABLE DECORATION OF ROSES.

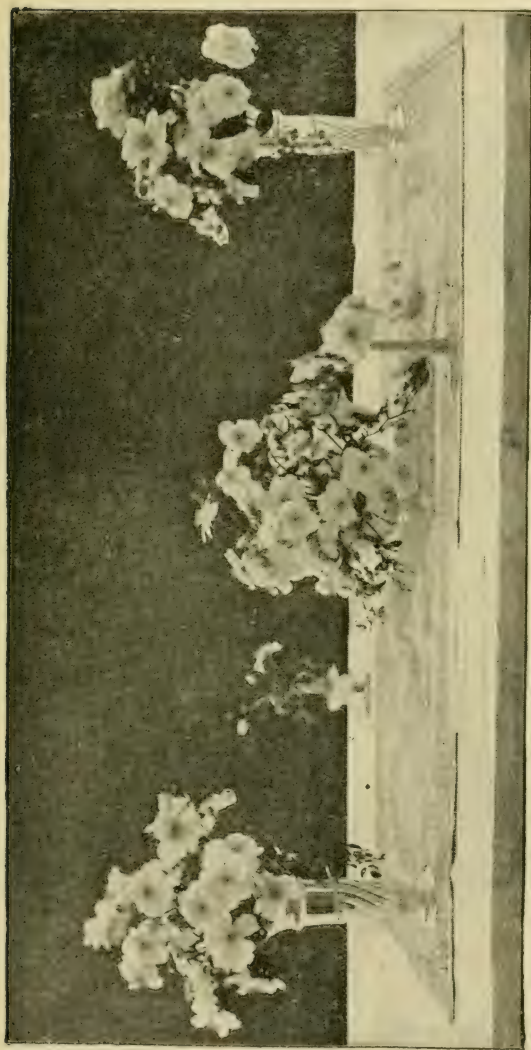


FIG. 86.—A TABLE OF ROSA HIMALAYICA.



FIG. 87.—A BASKET OF ROSES.

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